# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

## CONTENTS - VOL. 9, No. I.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Plant Industry
Washington, D. C.

# THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control,
and the Cooperating States.

Vol. 9, No. I WINTER EDUCATIONAL NUMBER January 15, 1925.

Hello Agent!

Know you must have had a Merry Christmas - and now here's the New Year with its Greetings and Promises. Are you wonderin' what this year is going to bring you? I'll bet it brings only what you put into it. That's "nater's" way of doin' things, you know. An hour's head-work now will save you many hours of foot-work later in the season, and will help to pile up the batting average in Ribes eradication. How about it, Agent?

Temper your imagination with judgment and give it a chance to work for you. This is the theme which the Spectator ponders on in a later page of this issue.

Studyin' anything this winter - or readin' anything special? A "peeroosal" of the publications on White Pine, or Forestry in New England and New York might sharpen your minds - and show you how pullin' a sassy goose-bush is a part of the bigger game of conservin' our natteral resources.

With all my goodest wishes for your success and happiness during the comin' year, I am

Yours with a big pull,

Ribes Bill

A THOUGHT FOR THE NEW YEAR.

There is satisfaction in work well done. The experience gained last year will help us to greater achievement in 1925. Public service calls for our best efforts and with the inspiration of past accomplishments, we can not fail to make this year the most successful of our history.

We have faith in our work and in forestry. Why not demonstrate this faith, to the benefit of our work and ourselves? Blister rust control workers are not paid large salaries, but everyone who has the will can and should save part of his earnings for the proverbial "rainy day". Is there any better investment for such savings than a stand of young white pine, or a pine plantation that has been protected against blister rust?

Resolve to start your own wood lot this year, and apply proved forestry practice in its management. Even if it is only a single acre it will be worth while. The experience will strengthen your interest in your work and will lead to better things. When you see the new blister rust movie, "The Pines" consider if there is not a worth-while thought in it for you. If you do not yet have a son, perhaps you will have some day. Start a white pine savings account for him in 1925 and demonstrate your faith in yourself and in your work.

With best wishes for the New Year,

Sincerely yours,

S. B. Detwiler.

## PROGRESS OF BLISTER RUST CONTROL IN VERMONT.

Rapid progress is being made in the control of the White Pine Blister Rust disease in Vermont, through the eradication of both wild and cultivated currants and gooseberries. During the past season approximately 27,000 acres netting 183,739 bushes were cleared. This brings the total area cleared in the state up to 83,700 acres. Two hundred forty-four pine owners cooperated in making the above record for the year possible.

Extract from The Green Mountain State Forest News - Montpelier, Vermont1 January 1925.

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## A WINTER'S PROGRAM.

My program for the winter months is somewhat as follows:

Give lantern-slide talks before the granges and several Farm Bureau meetings, and other organizations where the opportunity arises.

Interview selectmen, civic leaders and pine owners on the subject of blister rust control.

Secure the cooperation of towns, associations and individuals in local control work.

Prepare statements of facts on blister rust control for publication in local papers and the "County Farmer".

Send out circular letters to land owners on the subject of blister rust control, and write personally to those who should have the work most at heart.

K. E. Barraclough,
New Hampshire.

GETTING AN AUDIENCE DOWN PLYMOUTH WAY, AND HOLDING THEIR INTEREST.

I use a few simple means to secure a good attendance at an indoor meeting, such as having it announced beforehand at one of the same meetings of the same body of people. They will in turn tell all their friends. I also have an article placed in papers in surrounding towns announcing the fact, and it always happens in my case that grange members, for instance from another town will attend the grange meeting in a neighboring town to hear a lecture on blister rust and white pine.

After the audience is there, the most important thing is to hold their interest and get the message across. When one is giving a talk illustrated with lantern slides and perhaps moving pictures, this is not so difficult. Also it is very important to tell an audience the conditions existing in the locality and to describe some other fungous disease having two host plants so they can see that the currant and pine problem is not so strange a thing after all.

It might have paid at one time to have had a meeting entirely devoted to blister rust, but not now, at least in my territory. People in my district have read and heard and talked with other people about blister rust and I think a talk devoted strictly to blister rust would not fully hold their attention. However, mixing blister rust with general forestry information, particularly on white pine, makes an interesting theme. Also giving the audience an opportunity to ask questions enables me to find out just what it is they want to know. When one starts, others follow and this brings up interesting points from different angles.

Lantern slides are more helpful in giving a blister rust talk than moving pictures because too many people attend motion pictures for entertainment and the next day 90% of them cannot tell you what it was they saw and heard. This can be remedied, at least in part, by giving the audience a blister rust folder to take home and read.

Publications, pictures and samples of blister rust cankers shown to an audience all help to bring out the most important points.

E. M. Brockway - Massachusetts.

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## THE RIBES ERADICATORS.

When the sun peeps up from its berth in the east
And tells to the world of the end of its peace,
It starts with surprise, for there it sees
Ribes Eradicators busy as bees.

From sunup to sundown with never a rest
They storm the strongholds of nature's best
With eagle eyes, and with unabated zest
The Ribes they ouster from their nest.

They never seek for commendation,
Pursue their way without hesitation;
The sky is their roof, and for consolation
The end of the season and civilization.

J. Francis Mahoney,
New Hampshire.

## IS IT WORTH WHILE TO ATTEND MEETINGS NOT RELATING TO BLISTER RUST?

The city dweller often pities the "poor, isolated farmer", who, it is alleged, has to stay at home evenings because there is no place to go. As a matter of fact the meetings which the farmer of an average community has an opportunity to attend during the course of the year are many and varied. There are field demonstrations in pruning; raising of alfalfa; bee culture; forestry and blister rust. There are meetings of a more social nature such as the Grange, Church Fairs and suppers. It is a very reserved farmer that remains by his fireside 365 nights of the year.

Usually different faces are found at different meetings. The farmer interested in poultry is not apt to be interested in cows. However, this fact is noticeable; whether a farmer is interested in cows or poultry, he usually owns pine. For this reason I believe, where the opportunity permits, it is well for the Blister Rust Control Agent to attend these diversified meetings. Contacts established at such meetings are very important. There is always considerable time before and after a meeting wherein the Agent can talk individually with those present. I often find that a farmer is apt to be a little more susceptible to a friendly greeting at a public place than on his own farm. The business done by the Blister Rust Agents at these meetings often tends to reduce field expenses. Men of a community whom it is necessary for the agent to see, are often present and such interviews save trips over rough, frozen, country roads.

At a pruning meeting I made a contact which ultimately resulted in the appropriation of levied funds for cooperative blister rust control work.

At a planning meeting this fall in a town in my district, it was difficult to change the conversation from blister rust and forestry to other farm problems.

A leading State Senator was introduced to me at a Dairy meeting last winter. As the man wished to leave the meeting early in order to catch a train, I offered to drive him to the station and we had an interesting talk on the weather and fruit. This summer it was my duty to remove his 450 cultivated currant bushes. He cooperated in their removal and since then we have had an interesting talk on blister rust and I have looked over his pine for him.

At a Chamber of Commerce meeting last winter the Articles of the Town Warrant were discussed. I was asked to explain the blister rust Article. At the town meeting not an opposing vote was offered against the measure whereas the year before numerous noes were heard. This will give an idea of the contacts that can be made at different kinds of meetings.

Certainly I feel that it pays to attend public meetings other than Blister Rust, in my county. I have joined the Grange, and am a good listener on the subject of cows, hens, and potatoes. It is worth while.

K. E. Barraclough

Rockingham County, N. H.

ROBERT W. MERRICK.

It is my sad duty to inform all fellow-workers of the sudden death of Mr. Robert William Merrick, Blister Rust Control Agent in Worcester (North) County, Massachusetts, on the morning of January 8 at Worcester, Massachusetts. Mr. Merrick was attending the annual "Union Agricultural Meeting", having a joint exhibit with Agent McNerney. Following a banquet at the Hotel Bancroft, Merrick returned to his hotel and at eleven o'clock wrote and mailed a letter to his wife, in which he remarked that the exhibit had been very successful and that he had had a very busy day talking blister rust and expected another busy one on the morrow. He bade good-night to the Clerk in similar words adding, "I am tired and guess I had better hit the hay". These were his last words, except for an attempted call for aid over the house telephone. When assistance arrived he had passed on.

Educated in the public schools of Walpole and Boston, Massachusetts, Mr. Merrick attended the Lawrence Scientific School of Harvard University from 1888 to 1890 specializing in the natural sciences. During the world war Mr. Merrick had an important part in local food production work and established and managed one of the first community markets in the country, located in Quincy, Massachusetts. For a time he was with the Bureau of Markets of the U. S. Department of Agriculture and later filled the position of Agricultural Secretary at the Boston Chamber of Commerce. He joined the Blister Rust organization in May 1922 at the beginning of the present campaign and has been a faithful worker during his period of service. In truth it may be said that he died "in the harness".

We in Massachusetts shall miss his enthusiasm and his cheery words, but the memory of him will remain with us.

C. C. Perry,
Massachusetts.

The news of Mr. Merrick's death comes to us with a shock. He looked so robust and healthy that no one would suspect for a moment that he was not well. We are grieved to hear of his death, and the deepest sympathy from our Office is extended to Mrs. Merrick in her bereavement. Mr. Merrick was a valued employee who gave his best to the work and his loss will be deeply felt by his associates.

J. F. Martin,
Pathologist Acting in Charge.

## INDOOR MEETINGS.

In the case of winter meetings, that is, indoor meetings, much better results can be obtained if the Blister Rust Agent is the only speaker.

First, it gives him more time to go over his subject carefully. Second, the interest aroused is not divided or confused with other topics. Third, if he is the only speaker more people will come to talk with him after the regular program is finished.

I have spoken at many meetings of all kinds and have had the best results under the single speaker rule.

If you can get a group of people around you after your talk it is usually very easy to get most of them to sign up for the cooperative eradication of Ribes on their property. Some one of them is sure to start the ball rolling and even the lukewarm ones do not like to refuse when their friends and neighbors are cooperating.

## Supply of Publications.

Never go to a meeting without a liberal supply of Blister Rust folders or cards and a few good specimens. Get your specimens in the town in which the meeting is held, if possible, and be able to tell the people just where and on whose land they were found. There may be adjoining land owners in your audience.

If you cannot get specimens from that town get them at the nearest possible point and tell the people frankly and plainly why you did not get them in their town. Perhaps you had done no scouting there or the infections were not easily reached in winter.

Be sure the specimens are fresh and are good examples of whatever phase of the disease you want to show. Be certain that everyone gets a card or folder. Some may be wasted but others will bring worth-while results.

Questions on many subjects will be asked. If the question is one that cannot well be answered off hand some of our bulletins may fill the bill. Get the name and address of the party and then see to it that the right bulletin gets to him through the proper channel. If it is a forestry question, see that the state forestry department supplies the information.

If it is an agricultural question make a note of it and get in touch with the County Agricultural Agent and get him to furnish the information. That will please both parties. Never promise to do a thing like this and then fail to do it. Keeping your word pays big dividends.

Robert W. Merrick.

## C O R R E C T I O N

The Editor wishes to call attention to an error which appeared in the November News Letter, Page 11, under the heading "A New Type of Mimeographed Material Opens Up Large Field for Publicity in Blister Rust Control". The last paragraph of this article should have the word "stencil" substituted for "poster", as it is a new type of stencil which makes possible the reproducing of pictures, cuts, etc., with the aid of the mimeograph. The name of this stencil is Mimeotype, a Dry Process Stencil. This error was brought to our attention by State Leader Newman, of New Hampshire.

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## PLANNING IS AN ESSENTIAL FEATURE OF BLISTER RUST CONTROL.

December 5, 1924.

Editor of Blister Rust News
Office of Blister Rust Control
Bureau of Plant Industry
Washington, D. C.

Dear Sir:

I am enclosing herewith an article prepared by Mr. Roop entitled "The Importance of a Definite Plan." I believe this article will be of interest to the other blister rust control agents. If you think it too long for a News Letter item, perhaps you would consider it of sufficient importance to send around as a separate.

Very truly yours,

C. C. Perry,
Agent.

Editor's Note: We consider that anything having to do with systematic plans for blister rust control work is never too long, so Mr. Roop's plan draws full space in the Blister Rust News.

## THE IMPORTANCE OF A DEFINITE PLAN

By Wm. Roop

Everyone is constantly making plans. The infant's first cry is his plan for his meal. The human race is always planning; some good and some bad, mostly good, however. Some enterprising chap planned the cross-word puzzle which seems to be the latest novelty. The cross-word puzzle is no longer a novelty to blister rust agents; his energies are largely absorbed in planning to evade the cross-word puzzles. However, it is all in the line of experience and prepares us for the planning of greater things.

Good planning is the foundation of efficiency. Good planning can only be based on actual knowledge of the subject in hand. It is as essential for blister rust control agents to have a well defined plan of work as it is for the builder to have plans for the building to be erected, the bridge to be built, or the ship to be constructed. In fact, no piece of work, whether great or small, can be carried on to a successful completion without a definite and accurate set of plans.

We must make plans, good plans, plans that we know we can carry out to the letter, plans that will fit the conditions outlined for the completion of the blister rust control program. In order to do this we must have an accurate knowledge of what is to be done in our territory and confidence in our ability to put the work over as we have planned and allow no obstacle to get in our way to prevent the completion of each project on the date that we have marked against it. We all have mental plans of what we want to do but like the infant that plans his first meal, we find it difficult to put them on paper. The following is an effort to place plans for blister rust control work on paper and is offered as a suggestion that may meet the needs of other agents, subject of course, to modifications to suit local conditions.

## PLAN FOR THE CONDUCT OF COOPERATIVE BLISTER RUST CONTROL WORK DISTRICT I MASSACHUSETTS SEASON 1924-25

### General Considerations

General plan for the district as a whole:

The plan as outlined for the completion of blister rust control work in Essex County was prepared after a preliminary examination of the whole area and involved the division of the district into five parts. First, the towns of Salem, Marblehead, Swampscott, Nahant, Rockport, and all but the extreme western part of Lynn were eliminated as non-pine areas. Second, in 1922, the towns of Boxford and a part of Topsfield were completed. Third, the towns of Ipswich, Hamilton, Wenham, Beverly, Danvers,

Peabody, Middleton, Amesbury, Salisbury, and the remaining portion of Topsfield, were listed for educational and control work in 1923. Fourth, the towns of Georgetown, Groveland, Haverhill, Merrimac, Newbury, Newburyport, Rowley, and West Newbury were listed for the season of 1924. These towns have all been completed to date together with the towns of Methuen and Lawrence, leaving for completion in 1925, the towns of Andover, Essex, Gloucester, Lynnfield, Manchester, North Andover, Saugus, and the western portion of Lynn.

Distribution of white pine in the district:

Large areas of white pine occur in the towns of Andover, Boxford Essex, Hamilton, Middleton, North Andover, and Topsfield. There is much scattering pine in Amesbury, Beverly, Georgetown, Groveland, Haverhill, Ipswich, Lynnfield, Manchester, Merrimac, Methuen, Newburyport, Peabody, Rowley, Salisbury, and Wenham. Small areas of scattered pine are to be found in Danvers, Gloucester, Lynn, Newbury, Saugus, and West Newbury. The remaining six towns have no appreciable amount of pine of the forest type, although the tree is used to a considerable extent for ornamental purposes.

Distribution of Ribes in the district:

Wild Ribes occur more abundantly in the coastal towns where there is more bird life to scatter the seeds. Where gooseberries are cultivated, we find gooseberries of a similar variety more abundant in the wild state. If black, red, or white currants are cultivated, we find that the wild variety will be largely the same, and while the wild native gooseberry can be found throughout the county, most of the wild varieties can be traced to the escaped cultivated.

Ribes are cultivated in unusual abundance throughout the entire district. The flowering currant has been planted everywhere.

## Educational Work

Preliminary scouting-survey (October 31 - November 15):

In order to have a detailed plan for the work each year, and to more thoroughly familiarize ourselves as to local conditions, a preliminary scouting by auto, is carried out to note roughly the amount and location of areas of white pine; town boundaries; location, quality and condition of the road systems and favorable locations for temporary field headquarters when needed.

List of towns marked for completion in 1925:

It has been decided to undertake educational work in the towns in the following order, with temporary field headquarters as noted:

| Temporary Headquarters | Towns | Dates |
|---|---|---|
| Rowley | Rowley & Ipswich (Re-examination of study plots) | Nov. 15-30 |
| Andover | Andover<br>North Andover | Dec. 1-30 |
| Lynnfield | Lynn<br>Lynnfield<br>Saugus | Jan. 1-Feb. 15 |
| Gloucester | Essex<br>Manchester<br>Gloucester | Feb. 16-April 15 |

Plans for general educational work: (November 16-April 15):

Interviewing town officers and other influential residents

Obtaining the names and addresses of town selectmen to be used by the State Leader in mailing the following announcement letter informing them of an anticipated call from the blister rust control agent and soliciting their cooperation and assistance in getting blister rust information before the residents of the town.

(Cooperative Letterhead)

Date

Mr. .....
Chairman, Board of Selectmen,
..... , Mass.

Dear Sir:

The White Pine Blister Rust, a deceptive and destructive forest disease, is menacing the white pine of this State, and is especially prevalent in Essex County. At the present time, the United States and the Massachusetts Departments of Agriculture are cooperating with Town Officials and pine owners for the control of this pest. In connection with this work, limited funds are available for the purpose of assisting farmers and estate owners to save their pines.

Intensive work has been carried on in Essex County since May 1922 and the pines of all cooperating owners have been protected in ten towns. All control work must be finished by November 1, 1925. Your town is listed for cooperative work this coming season.

Our representative, Mr. ..... Blister Rust Control agent in charge of the work in Essex County will call on you very soon, and you are respectfully urged to assist him in every way possible in getting the information about this disease before the residents of your community, by organizing pine owners, furnishing addresses of non-resident pine owners, and to assist in any way you may find convenient in securing for your town its share of the State and federal assistance available for the work this year.

Respectfully yours,

(Signed)

State Blister Rust Leader.

In addition to the Selectmen, other town officers are visited for the purpose of securing from them as detailed information as is possible relating to the ownership of the white pine in the town.

General educational work:

Following the initial interviews with the town officials, features of a general educational character are employed. This includes the placing of small exhibits in store windows or the postoffices, the placing of posters, etc. Short articles or news items will be inserted in the local papers giving notice of exhibits, meetings, etc., and making known the fact that the services of the blister rust control agent are at the disposal of pine owners for the planning and later supervision of control work.

Systematic canvas of pine owners and owners of cultivated Ribes:

It is proposed to make a systematic canvas of as many pine owners as possible in the time available. The purpose is to secure their co-operation, make definite arrangements for Ribes eradication work in the spring, and to determine the area from which it will be necessary to eliminate cultivated Ribes.

Correspondence with non-resident owners:

During inclement weather, an effort will be made to reach the non-resident owners by the use of form letters and folders. The following type of letter sent to out-of-town owners has been productive of splendid results.

(Cooperative Letterhead)

Field Address: Rowley, Mass.
Nov. 21,1924.

Mr.....

.....Mass.

Dear Sir:

You are no doubt aware that the White Pine Blister Rust is present to a considerable extent in Essex County, and infection has been found on your estate in..... Our examiner reports conditions favorable for its continued spread in the vicinity, unless prevented by the effective and inexpensive control measures perfected by the authorities engaged in this work.

You are requested to cooperate with the federal and state forces now working in the vicinity, for the protection of White Pine. An early reply would be appreciated.

Very truly yours,

.....

Agent in Charge.

The purpose of such a letter is to simply obtain the owner's interest and is usually successful in so doing.

Preparation for the Ribes eradication season April 15-May 1

Intensive educational work will be completed early in April and the remainder of the month will be devoted to preparation for the active Ribes eradication season to begin not later than May 1. This interseason period is an important one and will be used to assemble and train foremen and scouts, arrange interview cards, etc. so that advantage may be taken of the favorable conditions for Ribes eradication which prevail from April 20 to June 1.

Plan for Ribes eradication work (May 1-Oct.15)

(a)

| TOWNS | ESTIMATED AREA TO BE ERADICATED | ERADICATION COSTS STATE & OWNER | DATE TO BEGIN | DATE TO COMPLETE |
|---|---|---|---|---|
| Andover and No. Andover | 8500 | 750 | May 1 | June 30 |
| Lynn Lynnfield and Saugus | 8000 | 750 | July 1 | July 31 |
| Essex Manchester and Gloucester | 8500 | 900 | August 1 | September 15 |
| Re-check on cultivated Ribes | | | | September 30 |

(b) Records:

The records kept during the Ribes eradication season comprise the following:

BR-1 This is a daily report made out in triplicate by foremen and scouts. On this report are recorded complete figures for the field work to include the name of the owner, names of employees, payroll, expense items, number of Ribes eradicated, area eradicated, and checks made. Two copies are submitted to the Agent in charge, one of which is O.K'd and forwarded to the State Leader.

Monthly Summary sheets:

Data on the BR-1 form are transferred by the foreman or scout directly on to a summary sheet for the particular town. A separate sheet is kept for cooperative work and for state work. These sheets are totalled at the end of each month and the totals should check up with the totals of payrolls and expense accounts.

Interview Card Records:

As time permits the data on the summary sheets for cooperative work are entered on the proper interview cards which are the permanent records.

Monthly Report Form BRE-2:

Each month, the Agent in charge submits a complete report of the work for the month. Figures on educational work are obtained directly from the educational note-book and those for Ribes eradication work are taken from the summary sheets.

Cultivated Ribes Report Cards:

Upon the removal of cultivated Ribes a detailed report is made upon a card form. This record includes the number of Ribes by species, their age and condition class. There is also a record concerning the attitude of the owner. The cards are submitted to the Agent in charge and then submitted to the State Leader as a permanent department record.

Respectfully submitted,

(Signed) Wm. T. Roop,

Blister Rust Control Agent,
District I

November 30, 1924

AGENTS HELP COLLECT DAMAGE DATA.

Agents Wheeler, Tarbox, and Holden are the first to submit canker measurements on the forms distributed to the agents last month. Their assistance in this matter is greatly appreciated and it is hoped the other agents will also contribute a few measurements of cankers from their respective districts.

We need this data very much and if each agent will send a few measurements the aggregate will be sufficient to give worthwhile results. Measurements of cankers on trunks 6 to 14 inches diameter breast height are particularly desired. A good way for the agent to get this data, is to carry a couple of the forms with him and whenever he finds a dead or dying tree, spend a few minutes in measuring the canker and recording the data on the forms. After a time he will have collected several measurements without interference with his other duties.

J. F. Martin.

PRACTICAL HINTS FOR GETTING NEWS ACROSS.

By George E. Stevens.

It is not always easy to get editors to put in articles on blister rust, even if they are local news.

The finding of blister rust in Dr. Ford's pine was something new in this district. After finding it, considerable thought was given, before making it public. I got in touch with Dr. Ford and we inspected the pine area together. He was deeply interested and when blister rust had been pointed out to him, he asked for a crew to destroy the Ribes on his land as soon as possible. He willingly gave permission for his name to be used in news articles and assured me that he would be glad to help in any way possible, offering his land to be used for demonstration purposes, if we wished. With such backing, I felt safe in preparing a good article for the papers. His hearty cooperation strengthened the news article 100%, because I had not only found blister rust (the first in this district) but also had the cooperation and interest of the owner. This is what appeals to the public. I got the article in the Utica paper because Dr. Ford's home is in Utica. I took a chance on the Watertown papers and they also printed the article. The Lowville papers did not print it. The only reason I can give is because the article was not local news for them.

The reason that the same article on the discovery of the rust in a new locality comes out in a number of different papers under different dates is because some papers are dailies and others weeklies. In sending out news articles to a number of different papers I send them out so that all the papers get them at about the same time. In this way the editor

does not get a chance to see if the article is first coming out in another paper.

I do not make a practice of sending mimeographed material to newspapers. The articles are all written separately to the different papers. The editor then thinks he is getting the main, or the only copy. Had mimeographed articles been sent, the editor would not have thought them so important and would have taken it for granted that such articles would appear in other papers.

I refer to the clip sheet sent out by the Washington office, for wording and phrasing. This gives new ideas for preparing articles. However, I have never used the entire article because what can be used successfully in one locality does not always work out in another.

Headlines are usually changed by the editor to suit his fancy because he is more capable of knowing what attracts attention and what will be most conspicuous. Often the same article appears in a number of papers under different headlines. These I can again use when I discover blister rust in a new locality; they give me ideas for preparing future articles.

I do not let reporters interview me. When I want articles in the papers I see that I have something written for them to follow. If they copy down notes they take too much for granted because they are so entirely unfamiliar with blister rust. I try never to leave them in doubt. The articles given them should be clear in meaning and typewritten for easy reading. The editor is a busy man and the work should be made as easy for him as possible. Care should be taken never to feed them up too much on any one subject.

## INDOOR MEETINGS IN NEW YORK STATE.

The subject of indoor meetings is one which vitally concerns all educational agents, especially at this time of the year. It is the object of the agent to make these meetings as successful as possible. Whether it is felt that the meeting went over "big" or was not quite so successful, the agent should not lose faith in himself. He must bear in mind that educational work is necessarily a slow process and although he may not have secured good results in one particular meeting, there is every reason to believe that some good will result from his efforts.

It is the general consensus of opinion among agents in New York State that it is not best to hold meetings which are entirely devoted to blistef rust and yet they feel that this should be the main topic of a talk. A discussion of blister rust and its control should be closely linked up with reference to forestry in general, with particular reference to facts making for a keener appreciation of pine values. A great many pine owners fail to realize the value of growing pine timber, especially young pine growth. Consequently they do not realize the necessity of protecting the same from blister rust and other pests. Oftentimes the agent can arouse considerable interest in his talk by citing local facts pertaining to the value of pine timber. This will usually set folks to thinking and very often stimulates expression from the audience. The main idea of many indoor meetings is to get people to talk and to ask questions.

The use of moving pictures, lantern slides, graphs and charts is to be commended. These tend to stimulate and maintain interest. It is often more desirable to use lantern slides than moving pictures as it gives the agent more of an opportunity to talk and explain matters of interest which results in the audience getting a better idea of blister rust.

It is usually advisable to carry on meetings in cooperation with the county agricultural agent. Coupled with whatever means of advertising the agent may employ the Farm Bureau organization is a great help in getting out a crowd.

In summing up, I would say that the object of our meetings is to stimulate interest in the cooperative control of the blister rust through Ribes eradication. The agent should remember that he is the connecting link between the people (prospective cooperators) and the directors of the blister rust control program.

With best wishes for a prosperous New Year to all fellow agents,

Sherburne H. Fogg,
Agent, Warren County, N.Y.

## PROFESSOR FISHER OF HARVARD FOREST RECOMMENDS WEEDING TO SECURE PURE PINE.

"Among the research projects especially stressed by Prof. Fisher was that of weeding on land coming back shortly to forest. In another part of his discussion it was brought out that forest land in New England now coming back to forest by natural methods was not seeding into pure stands of pine and spruce as formerly was the case. It is believed that the presence of the larger number of weed trees is responsible for the inferior mixture, making weeding highly desirable. Prof. Fisher stated that spending from $3 to $7 per acre for weeding means crops of timber at the end of the rotation worth $300 per acre vs. only $50 per acre for unattended land."

Advisory Council Northeastern Experiment Station Meets -- Reported by Dean Moon in the November 1924 issue of The News Letter of the New York State College of Forestry at Syracuse University.

REPORT OF
FORESTRY MEETING AND BLISTER RUST DEMONSTRATION
AT WATERFORD, VERMONT.

Edit: While the Blister Rust News of Sept. 15, 1924, had an article on "The Waterford, Vermont, Demonstration" yet it is believed that this fuller description will be of interest since it goes into the details of arranging the demonstration.

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A Forestry Meeting and Blister Rust Demonstration was held at Waterford, Vermont, on August 28, 1924. The meeting was held jointly by the Vermont Forest Service and the New Hampshire Forestry Department.

The area selected for the meeting is heavily infected with blister rust. It is unique in that the pines are all old and merchantable. The disease has infected more than 50% of them and many are already dead. It offers an ideal spot to show damage to mature pines.

LOCATION OF AREA.

The area is located on the Leighurst Farm about three and a half miles east of St. Johnsbury on the Littleton state highway.

DESCRIPTION OF AREA.

The area is on a north to northwest slope. About twenty acres of it is pasture with scattered pines. They average about 75 to the acre. There are about three or four acres of dense mature pines in pure stand. East and south of this the pine extends indefinitely. Most of this is mature growth mixed with spruce and hardwood. Infection is distributed through all of the pines described and for half a mile into the mixed growth. Twenty four acres, including the pasture growth and the pure full stand were used for the demonstration.

PLANS FOR THE DEMONSTRATION.

Twenty-four acres of the most accessible part of the infected area was laid off into quarter acre plot with a marked stake at each corner. The percentage of infection was then obtained for each quarter acre plot. In addition

Six plots were studied more intensively to determine the progress of the disease since its inception. These plots were selected where infection and damage were most severe. On each of these plots a separate exhibit and display was staged. A colored chart depicting the progress of the disease by means of circles was made and set up at each plot. Infected pines were all flagged with a strip of white bunting. Yellow tags were hung from individual cankers. Dead pines killed by the Rust were so placarded.

The Ribes in each plot were located and complete records taken. A red flag (bunting) 12" x 12" mounted on a staff 4' high (strip of lath) was set up at each bush or group of bushes. This made it easy to pick out the Ribes. Many of the individual bushes were placarded with such inscriptions as "Gooseberry", "The Guilty Bush", "this gooseberry should be pulled", etc. From some of the most central Ribes on the plots red strips of bunting were extended to the infected pines to show that the infection came from the Ribes to the pines.

A route was carefully selected through the area for the purpose of conducting people to points where they would see the blister rust cankers and the most damage. Along the route four observation points were selected from which points a large part of the area could be seen. The plots which were displayed were at, or very near these points. Pines with large cankers were pruned so the cankers could be more readily seen from these points. The route through the area was well placarded with arrowed signs to prepare people for the exhibit and keep up their interest. Different kinds of posters were also used.

At the point where the speakers talked the grand display was set. There were three large posters depicting in different ways the conditions on plots in and near the point. In addition Vermont and New Hampshire poster charts were displayed to show conditions found in other towns in both states.

Parking space was arranged for with a man in charge, assisted by two boy scouts. As people entered they were each given a pamphlet, the cover of which

was blue print copy of the chart of the area showing the plots and the percentage of infection in each plot. The second and last page gave a dozen facts on both white pine and blister rust. Boy scouts assisted in directing people along the route until they had caught up with the party. Each blister rust official was assigned a party of 10 to 15 people whom he conducted along the route and demonstrated the disease and its control. The talks were given at the far end of the lot where the several parties gathered. Refreshments were arranged for at the farm house where everyone went after the meeting. Lemonade, coffee and doughnuts were served by the farmer's wife, assisted again by the boy scouts.

Notice of the meeting was sent out by the state leaders in each state. Form letters were sent to farm bureau members and printed posters were distributed for a radius of 20 miles. The meeting had to compete with the fair at St. Johnsbury so that the crowd was probably smaller than it otherwise would have been. There were seventy-five people present during the day. They began coming at ten in the morning. About 20 came before noon, a few of whom had their lunch and stayed through the afternoon. Several who came in the afternoon did not stay for the talks but they all saw the blister rust display. The local blister rust control agents secured several requests for pine lot inspections and a number agreed to cooperate in Ribes eradication.

W. J. Endersbee

Asst. Pathologist.

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## HEAVY INFECTION AT PITTSFIELD, N.H.

In seven years the blister rust rose from 0% infected to 65.9% infected in a white pine lot at Pittsfield, New Hampshire. This was graphically represented by a Blister Rust Thermometer Poster sent out by the New Hampshire Forestry Department.

MR. DETWILER'S WESTERN TRIP.

Mr. Detwiler has returned from six weeks in the Pacific Northwest. He reports that the western field force made a splendid record in 1924. Eradication of cultivated black currants has been completed in Montana west of the Continental Divide; Idaho in all except the southern two tiers of counties; Washington except the arid central portion; Western Oregon; and the northern counties of California. Two local control camps were established in Northern Idaho in the Kaniksu National Forest. The supplies had to be packed in on horses at a cost of three cents per pound. In spite of the high labor costs however, 8,000 acres were cleared of Ribes at a cost of $1.57 per acre. The Ribes removed averaged 53 bushes per acre and the efficiency averaged approximately 90 per cent. This is a very creditable showing in view of the fact that it is the first local control work in the west on a large scale.

The trustees of the Western Blister Rust Conference held an open meeting in Seattle on December 1. About 50 persons attended and much interest was manifested in the reports on the season's work and the plans of the Executive Committee of the Conference.

Mr. Detwiler also attended the annual meetings of the Western Forestry and Conservation Association and of the North Idaho Forestry Association. The meetings were well attended and were remarkable for the exceptionally close attention given to the papers and discussions, indicating a deep interest in forestry development. Western foresters and lumbermen are cooperating in a sympathetic and efficient manner. It is apparent that forestry is making sound progress in the West.

MEETING OF TRUSTEES OF THE WESTERN WHITE PINE BLISTER RUST CONFERENCE.

The fifth annual meeting of the Trustees of the Western White Pine Blister Rust Conference was held at Seattle, Washington, on December 1, 1924. The Trustees extended an invitation to all who were interested and as a result there assembled a representative gathering of State, Provincial, Dominion, and Federal officials, timber owners, association representatives, members of transportation agencies and others from the Pacific States and British Columbia.

Mr. C. A. Park, President of the Board of Trustees of the Conference, emphasized that comprehensive plans for developing adequate control measures in the West had been incorporated in a ten-year program by the board of Trustees, which has met with general approval. He stated that Idaho and Oregon had definitely outlawed the cultivated black currant and that Idaho had made an appropriation of $5,000 for their eradication within the state.

Mr. C. S. Chapman, Secretary, outlined as the function of the conference, the duty of seeing that the ten-year program is adhered to by all parties and to keep in close touch with all work undertaken.

Mr. Wyckoff, in charge of the Western Branch Office of Blister Rust Control, reviewed the past season's work and gave up-to-date information concerning the control work in progress.

Dr. J. S. Boyce discussed the susceptibility of Ribes, a study of which, has further confirmed the importance of the cultivated black currant in introducing the disease into new localities. Investigation of the four important species in Northern Idaho show that the wild black currant and the white-stemmed gooseberry are decidedly susceptible and probably rank high in their capacity to damage pines, while the sticky currant and the prickly

currant are low in damage capacity.

Attention was called to the Pinon Blister Rust, which occurs in Southern Idaho and has been reported at Spokane. The stage of this rust on the currants and gooseberries is very similar to that of white pine blister rust. Studies will be continued in order that it may be possible to distinguish these rusts readily when they overlap.

Mr. Davidson, in charge of blister rust work in British Columbia reported that Canadian efforts are being made to eradicate the infected white pine and the black currants in the Eastern section of British Columbia, where the presence of the rust threatens the pine stands of Idaho, Washington and Montana. He reports that this work is being successfully carried on.

Professor H. P. Barss, Pathologist of the Executive Committee reviewed the ten-year program and recommended that it be carried out during the next fiscal year without change.

Mr. S. B. Detwiler, in charge of the Office of Blister Rust Control, of the Bureau of Plant Industry, stressed the importance of white pine as a crop in the United States and the necessity for controlling the blister rust. He evidenced the practicability of developing local control in the West by showing that while in 1918 local control in the East cost an average of 72¢ per acre, in 1923 it cost but 18¢.

Mr. W. D. Humiston stressed the necessity in Montana, Washington and California of the passage of laws authorizing the eradication of the cultivated black currant, similar to the legislation enacted by Idaho and Oregon.

At the close of the meeting resolutions were adopted recommending the continuance of the ten-year program as approved by the conference last year. Appreciation was expressed of the work done by the U. S. Department of Agriculture.

The Executive Committee of the Conference elected for the ensuing year are: Mr. C. A. Park, President of the State Board of Horticulture of Oregon, W. D. Humiston, Assistant Manager Potlatch Lumber Co., H. P. Barss, Head of Botany and Pathology Department, Oregon Agriculture College. F. H. Gloyd, Commissioner of Agriculture, State of Washington, Fred Morell, District Forester, District #1, Forest Service.

## CALIFORNIA NURSERYMEN COOPERATE IN WHITE PINE BLISTER RUST CONTROL.

"In conjunction with the eradication of the cultivated English black currants, now comprising the major part of the blister rust work in California, letters have been sent to the nurserymen of the State, asking them to discontinue the growing of the black currant and remove any now in their possession.

It is obvious that the nurseries are one of the sources of supply for these bushes. A very favorable response has been received. Several have reported the removal of their bushes and many have shown a willingness to cooperate in other ways. A very small percentage of the nurseries, however, grow or sell black currants.

The general eradication of black currants up to November 30, conducted throughout the seven northern counties of California has resulted in the removal of 117 plantings, comprising 833 bushes. Four men were in the field from August 15 to October 15. Work is steadily progressing in Humboldt County, as one man was retained after the termination of the regular field season. This County possessed the greatest number, consisting of 88 plantings with 720 bushes. The counties completed thus far are Lassen, Modoc, Shasta, Siskiyou, Trinity and Del Norte.

This work is being carried on with the cooperation of the State Department of Agriculture, the State Board of Forestry and the Federal Office of Blister Rust Control."

Extracts from WEEKLY NEWS LETTER, State of California Department of Agriculture, Dec. 31, 1924.

## ANNUAL BLISTER RUST CONFERENCE.

Permission has been granted to hold the annual conference in Washington, D. C., this year rather than at some point in the field, as in past years. The date of the meeting will be arranged soon and a suitable program prepared. The opportunity afforded for becoming more familiar with the work of this office and of the Bureau in general, will be of particular interest and benefit to state leaders.

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## SUMMARY OF BLISTER RUST CONTROL FOR 1924.

Mr. E. C. Filler read a paper before the Phytopathological Society at their annual meeting in Washington during the Christmas holidays on "The Control of White Pine Blister Rust in the Northeastern States." This will probably be mimeographed and sent to all blister rust workers during January.

In summing up the control work, Mr. Filler stated that "During 1922, the first year of the cooperative control campaign, 481,466 acres of land were cleared of Ribes. In 1923, 895,986 acres, and in 1924, 994,306 acres of land were eradicated of Ribes. Accomplishments since 1922 indicate that the initial eradication of Ribes under the cooperative control program will be extended to all important white pine areas in the Northeastern States by 1930."

## THE ERIE R.R. FORESTRY TRAIN.

Three exhibition cars, besides the office car, made up the Erie Railroad Forestry Train.

Car #1 was made up of panels, photograph enlargements, transparencies, etc. The panels, which are the regular Forest Service exhibit sections, were placed on opposite sides of the car. These panels, by the aid of pictures, told lessons in forestry. One showed a section of a forest with trees that should be marked for removal. Transparencies were placed along the side at one end of Car #1 which portrayed various forestry and lumbering scenes and with the photographs opposite them, made up the New York State College of Forestry part of the show; the balance of the car being Forest Service (U.S.) ideas.

Car #2 was largely Conservation Commission, with some Pennsylvania Forestry Department ideas and materials. Car #3 was used for talks and motion pictures only.

An average of 371 persons visited the train daily, that is in from two to three stops. The majority, by far, were school children who seemed genuinely interested. Men from the Pennsylvania Forestry Department, the N.Y. Conservation Commission, N. Y. State College of Forestry, and U. S. Forest Service, were on hand to assist in the work of explaining and answering questions. Both State Departments gave out blanks and took orders for trees. Fires and fire fighting had an important place, but reforestation and associated subjects made up the bulk of the subject matter of the photographs and exhibits. The large three-wing panel on Blister Rust Control headed "STOP - LOOK - ACT" was on exhibit. "Bare Acres" and one other film were shown in the movie car.

The train was advertised in the newspapers and by posters. On the side of one of the cars a small board sign reading "Erie R.R. Forestry Special" was placed during the stops. The nature of the questions asked by visitors was chiefly concerning reforestation and up to December 3, Dr. York reported about 90,000 trees sold and many more blanks given out, to residents of New York.

Extending forestry and forest protection by means of such a train seems a most efficient way of carrying on that work. This one train and its limited tour is but a drop in the bucket, but it is a start and an experience for New York and Pennsylvania foresters as well as a benefit to the railroad and to the communities along its lines. There are, of course, many possible chances for improvement such as: More elaborate exhibits. Greater appeal to the younger generation, essay contests in schools, etc. Greater use of working models which will carry ideas home to the visitors. A field demonstration or inspection trip might be combined with each stop and exhibits of widest appeal used to advantage. Advertising by letters of announcement to local organizations, combining with local band concerts, etc.

Two ideas particularly, seem adapted to exhibit work on Blister Rust Control. One is the use of models - to compare a protected lot against a diseased one, or to show a crew pulling bushes, or to show how the rust spreads, kills trees, etc. Working models are a strong attraction and give lasting and accurate impressions. The other is the wing panel used by the Forest Service for its exhibits. With this, a serious Blister Rust infection area could, without much difficulty, be reproduced, and could be made to carry considerable punch.

A. E. Fivaz, New York.

Edit: This Forestry Train was run over the Erie Railroad in New York, New Jersey and Pennsylvania, from November 12 to December 18, 1924 and was visited by 9,651 persons.

## EFFECTIVENESS OF CONTROL PROVED BY A STUDY AT CHESTERTOWN, NEW YORK.*

Due to the protracted period of incubation of the rust on pines, the effectiveness of Ribes eradication in preventing new pine infection may not be accurately measured by examining trees, until several years after eradication work is performed. To determine the effectiveness of control a study was made in 1923 of a 152-acre demonstration tract at Chestertown, N. Y. This study was made by running a rod-wide strip on a compass line across the area from which Ribes had been eradicated and across the adjoining uneradicated tract. Table III summarizes the result of this study on a per acre basis.

Table III

Comparison of Pine Infection Conditions on a Control Area and Adjacent Unprotected Tract at Chestertown, N.Y., September, 1923.

| Area | No. Trees per Acre | % trees Inf. | Year of oldest Inf. | No. of Cankers by Infection Age Class: 1918 and before | No. of Cankers by Infection Age Class: Since 1918 | No. Ribes Seedlings per Acre Since 1918 |
|---|---|---|---|---|---|---|
| Not eradicated | 584 | 15 | 1915 | 8.5 | 118.0 | 38.0 |
| Eradicated | 319 | 1 | 1915 | 3.5 | 1.4 | 9.1 |

On the area cleared of Ribes in 1918 only one per cent of the trees were diseased, while on the adjoining uneradicated tract, 15% of the stand was infected. From 1915 to 1918 the uneradicated area developed 8.5 cankers per acre against 3.5 canker per acre for the eradicated tract. Since 1918, an average of 1.4 new cankers per acre have originated in the eradicated area, while in the unprotected tract 118 new cankers per acre have appeared. A Ribes survey carried on in combination with the pine infection study showed

* This study was conducted jointly by the New York Conservation Commission and the Bureau of Plant Industry, U.S. Department of Agriculture.

that since 1918, 38 Ribes seedlings per acre had developed on the uneradicated area against 9.1 on the eradicated area or a reduction of about 76%.

The data presented show that the eradication of Ribes has checked the spread of the rust on the control area and protected the pine from commercial damage. Similar studies on other control areas confirm these results. As the average efficiency in Ribes eradication has increased since 1918, the control work as now standardized will afford a higher degree of immediate protection to the pines, than the work on which this study was based. Highly efficient Ribes eradication will materially extend the period of time that may safely elapse before a second eradication becomes necessary.

E. C. Filler.

Extract from paper on "The Control of White Pine Blister Rust in the Northeastern States" read before American Phytopathological Society, January 1, 1925.

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Exchanges

The "Forest Worker" a mimeographed publication of the U. S. Forest Service has made its second appearance. If you have not received your copy, request one from the Editor of The Forest Worker, c/o U.S. Forest Service.

The Green Mountain State Forest News, Vol. 2, for January 1925 has appeared at the Editor's desk. This is a welcome visitor in an attractive green cover.

# THE SPECTATOR.

## IMAGINATION

In a screen play by Booth Tarkington recently I came across a title to this effect: "Make your imagination work for you, and not torment you."

I think this is the quotation, but I may be mistaken, as I quote from memory. Anyway, it brought out the fact that imagination can be used in two ways. It can help to make a person's lot easier or harder.

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Too many people live and keep their imagination an enemy. It is always concocting scenes and depicting occurrences that render one dissatisfied with his lot. We may have to work hard, but all the time our imagination is at play, or occupied with scenes of ease, luxury and comfort. This makes the work we have to do much harder. We are pulling against the grain; we are working against our imagination.

It would be just as easy to have our imagination work with us, and render our lot more tolerable.

If we have to work, we can send our imagination ahead of us to depict the pleasures of work. Our home will appear all the pleasanter if our imagination has been at work on it.

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There is nothing that we have to do but what our imagination can make it easier. In fact, the imagination is the road builder of action. Its purpose is to smooth out these roads, "to cast up the highway and gather up the stones."

Those whose imagination works contrary to them, whose fancy is busy all the time with digging ditches in the road and throwing rubbish there, are indeed unfortunate.

A man needs many friends in this world. A friend can do him a great deal of good or a great deal of harm. He can lighten his task for him, or he can render it a great deal harder by his interference.

The most important friend for a man to make is himself -- that is, his imagination. He can make it work with him, and the two together can pull in double harness and accomplish much more, or he can let it work against him and make his task more difficult.

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Dr. Coue has emphasized the fact that we can cure ourselves of many ills by the use of our imagination. He says that our imagining power is stronger than our will power, and that if we put the right picture before ourselves it will draw us to it much better than putting the right resolution before ourselves.

Religion, after all, appeals to the imagination--that is, its pictures present pictures of future bliss or punishment, and these have a great influence upon our lives.

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A work that is done for reward is done through the imagination.

As we dwell upon our hope, the work seems lighter and more negligible in comparison to the good that will result.

If we dwell upon the dangers and difficulties of our task, the work will seem harder and it will take more of our strength and nervous energy.

Therefore the imagination can put its hands under our arm-pits, and help us along, or it can slap us in the face and hold us back. It is a wise man who knows how to be a friend to himself.

Washington Herald
January 5, 1925.

## MOTION PICTURES.

Mr. H. S. Knowles called upon the Office of Motion Pictures for the film "White Pine - A Paying Crop for Idle Land," for use on December 4.

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Have you a copy of "Motion Pictures of the United States Department of Agriculture, Miscellaneous Circular No. 27, 1924"? A careful perusal of this will enable you, when requesting films from the Department, to pick out what your people would like to see.

A number of the blister rust control agents have been using a number of forestry and scenic films together with those on blister rust control, and report very successful meetings.

Write to the Chief of Division of Publications, U. S. Department of Agriculture, for Miscellaneous Circular No. 27, if you do not have it.

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The new Blister Rust Control Film called "The Pines" is being assembled and edited and the first copy will be completed this month. This film is a two-reeler, and depicts white-pine-farming and blister rust control.

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Professor Burr N. Prentice, of the Forestry Department of Purdue University, and well known to the New York agents, has called on the Department for the use of the western blister rust film entitled "Blister Rust - A Menace to Western Timber". This will be shown before the Purdue Biological Association on January 12.

MOVIES AS AN AID TO WHITE PINE BLISTER RUST CONTROL WORK.

Before the movie was introduced in connection with blister rust meetings, it was the writers personal experience to find it extremely difficult to get a sizeable attendance, likewise these meetings were found to be dull or draggy on a great many occasions.

Definite improvements brought about by the movies thus far sum up to me as follows:

To the audience - Greater enthusiasm is shown towards being present at meetings. A great many facts are accepted by the patrons through their presentation in pictorial form.

The blister rust agent can always supplement the picture with a brief account of conditions locally, referring to the state, county or the town where the meeting is held. In conclusion I find pictures force an agent to make his talk short and snappy. The discussions generally occur between reel changes which occupy a period of five minutes in time. Any extension of time will depend on how well you stand in with the operator. If you are required to operate the machine personally the chances are ten to one your talk will not be too long.

D. B. Keane,
New Hampshire.

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The portable motion picture projector is being sent from the Washington Office to Mr. W. O. Filley of Connecticut for the week of January 17-24; it will then be sent on to Mr. Newman for use in New Hampshire during the remainder of January and all of February.

# QUESTIONS AND ANSWERS.

## In General

Q - Where can I secure a good list of books on Forestry, suitable for study in connection with my blister rust control work?

A - Write the Forest Service at Washington, D. C., which has put out such a list entitled "List of Books on Forestry in English".

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Q - Can specimens of blister rust infections be preserved other than in a solution?

A - Specimens of pine infected with blister rust may be coated with the ordinary transparent shellac. This leaves a glossy finish which is somewhat un-natural, therefore objectionable, but it does preserve the specimen.

Any other methods of preservation than the above, will be greatly appreciated by the Editor.

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## On Indoor Meetings

Q - Does it pay to have a meeting devoted entirely to Blister Rust?

A - That depends. - if it is your first meeting in the Community it does; if it is your second or third meeting you must have other features to have an audience.

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Q - How can you get an audience to take part in meetings?

A - Where your audience is small, and made up of persons interested in pine, you do not have to coax them to ask questions, they are at the meeting for information and know that the way to find out is by asking questions. Sometimes it pays to make advance arrangements whereby a person will ask certain questions in order to start discussion.

Q - Do you consider lantern slides as valuable helps in putting over a program?

A - Lantern slides are the best thing to help arouse interest in the subject and certainly they do bring out the people.

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Q - Do you supply your men with literature?

A - The audience is supplied with literature at the close of the meeting.
- - - Why "only men"? You will find a large percentage of the audiences are women and in many cases take more interest than the male members.

Q - What kind of halls do you consider best for holding meetings?

A - In my opinion public and grange halls. A meeting in the grange hall is the best of all as there you meet the farmer and lumberman which are the two we want to reach.

D. S. Curtis
Oxford County, Maine.

## PERSONAL

Allen Tucker recently dropped Dr. J. F. Martin a line from Monticello, New York. (Box 59 R.F.D.) He says "I have looked about the forest some and as yet have not spotted any blister (rust)." Good luck to you, Tucker, in your new work.

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Among the visitors during the Holidays was Dr. H. P. Gussow, Dominion Botanist, whom many of us will remember as having visited the States in 1922, when he took a tour through the blister rust infected territory of New England and New York.

From New England came Prof. Karl Woodward, Prof. Briscoe, Harris A. Reynolds, J. E. Riley, and H. W. Hicock. Dr. L. H. Pennington of New York, Dr. S. B. Fracker of Wisconsin and Mr. J. D. Winter of Minnesota were also seen.

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Jas. Godkin now Extension Pathologist in Virginia, with headquarters at Blacksburg called at the Office during December. He used to scout for blister rust in Connecticut in 1917, under Dr. G. P. Clinton.

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Messrs. J. S. Boyce and S. N. Wyckoff were on the program of the Annual Forest Management Conference of the Pacific Forest Organizations to discuss the Forest Disease Situation. This conference was held at Vancouver, British Columbia, on Dec. 2, 3, and 4.

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Mr. E. C. Filler spent a couple of weeks, beginning December 29, working in the Washington Office. While in the City he delivered a paper before the Plant Pathologists. Mr. Filler's assistance was greatly appreciated in helping to edit the new Blister Rust film, "The Pines."

# PUBLICATIONS.

## Blister Rust

Anon.- White Pine Blister Rust - Massachusetts Department of Agriculture, Dept. Bulletin 130. 1924, 4 pages, colored illustrations. (Text quite similar to the "Jack Frost" Leaflet).

Dana, S.T. - White Pine Blister Rust - In the Biennial Report of Land Agent and Forest Commissioner 1921 - 1922 State of Maine. Pages 41-44. Mr. Dana discusses the work under the headings: Importance and Control.
Progress in 1921 and 1922.
Finances and Federal Cooperation.

Dickson, F. - White Pine Blister Rust, in Cultivated Evergreens, Edited by L. H. Bailey, 1923, pages 154 to 157.

Perry, C. C. - White Pine Blister Rust. In the Annual Report of the Commissioner of Conservation and State Forester for the Year ending Nov. 30, 1923. Massachusetts Public Document No. 73. Pages 6 and 7.

Riley, J.E. - White Pine Blister Rust Control.
The Biennial Report of the Commissioner of Forestry of the State of Vermont. 1922-24, 1924. Pgs. 42 to 54.

The growth of cooperative eradication work from 1920 to 1923 inclusive, is shown in the following table:

| Year | No. of Cooperators | Acreage Eradicated | Cost per Acre |
|---|---|---|---|
| 1920 | 29 | 4,501 | $.716 |
| 1921 | 31 | 6,317 | .548 |
| 1922 | 125 | 13,512 | .465 |
| 1923 | 220 | 25,762 | .333 |

Seaver, Fred J. - Destructive Fungi.
Journal of The New York Botanical Garden Vol. 25, No. 297, Pages 253 to 255. Sept. 1924. The white pine blister rust and the chestnut blight are given prominence in this article.

Wallace, Henry C. - Blister Rust Control, in the Report of The Secretary of Agriculture for 1924; under paragraph "War on Plant Diseases Goes Forward" Pages 64 and 65.

Ribes Substitutes

Darrow, G.M. - Viburnum Americanum as a Garden Fruit.
Proceedings of the American Society for Horticultural Science 1923. Twentieth Annual Meeting - Pages 44-54.

"Our work thus far has indicated that the viburnum may be grown on any garden soil if given clean cultivation. Though old bushes in the wild may yield a bushel of fruit, our plantation is too young to demonstrate how much may be expected from a given area. The bushes are especially variable in the time of ripening their fruit and in the manner in which the clusters are borne, whether erect or drooping. There seems to be a difference in size of cluster, size of berry, acidity of berry and in pectin content, though these may be greatly affected by the time the variety ripens. Viburnum jelly is considered equal to, or superior, to all other jellies, by a few, and is liked by about 50 per cent of those who test it, while about 50 per cent consider the strong viburnum flavor objectionable. The viburnum flavor is modified by combining with the quince, or by using the berries before they soften, the earlier they are used before they soften, the less pronounced flavor, at least, to a certain extent.

The hardiness of this fruit, its pectin content and the color of the jelly made from it combine to make selected strains of it of considerable promise as a jelly fruit in northern regions with severe winters."

White Pine

Cline, A. C. - "Pine Pure or Pine in Mixture".
A plea to those who would grow white pine forests to copy Nature and to beware of breaking her laws.

American Forests and Forest Life - Vol. 30, 369 Pages 557-8. September 1924.

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Additional copies of the Bulletin of the Green Section of the U. S. Golf Association - Vol. IV, No. 6, containing articles on:

White Pine as an Ornamental for Golf Courses,

Protecting White Pine from the Blister Rust,

Less Serious Diseases of White Pine, and

Insects Injurious to White Pine

have been secured by the Washington Office and are available to Blister Rust Employees as long as the supply lasts.

White Pine

Keller, John W. - Should We Plant White Pine? - Forest Leaves Vol. 19, No. 12, Pages 184-185. 4 illustrations.

Mr. Keller believes that despite the attack of the two serious pests, the white pine weevil and the white pine blister rust, that the white pine can be grown profitably.

For the White Pine Weevil - Mr. Keller states -

"The Pennsylvania Department of Forests and Waters has found the most effective control measures are to pick the mature beetles from the terminal shoots during the mating season in April and May, and to cut and burn the infected tree tops during the months of June and July. The mature beetles may be crushed between the fingers or emersed in kerosene to kill them. The burning of infected tops destroys the larvae. After August 1st many of the adult beetles have emerged and control measures are seldom effective. If these preventive and remedial measures are put into effect the white pine weevil can be controlled."

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Concerning the Blister Rust, he writes: "Remedial measures for blister rust attacks consist of cutting out the infected parts of trees that are attacked. The blister rust cannot be carried from pine to pine, but an intermediate stage exists on currant and gooseberry leaves. Control measures consist of removing all currant and gooseberry bushes within 300 yards of white pine trees. This has been done successfully * * * * * * * in New York and in the New England States. The cost of eradicating these host plants over large areas amounts to about 50 cents per acre."

* * * * * *

"Shall we continue to plant white pine? The answer is YES, because practical preventive and remedial measures have been worked out for the white pine weevil and blister rust, two of its most serious enemies. Would it not be much better for foresters to advocate the use of control measures which have proven effective and apply remedial measures where necessary than to discontinue the planting of this valuable tree? The lumber market will demand white pine as long as it can be gotten. It is our duty as foresters to meet this demand with a sufficient supply of wood. We must accept this responsibility and because of these pests, we should plant more white pine than ever before."

Edit: Mr. Keller is in charge of the Bureau of Forestry Extension in the Pennsylvania Department of Forests and Waters.

21-25

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

# CONTENTS - VOL. 9, NO. 2.

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Plant Industry
Washington, D. C.

# THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control.
and the Cooperating States.

MAINE NUMBER Vol. 9 - No. 2 February 15, 1925.

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Hello Agent:

Park your snowshoes in that snowbank, Agent, and come in where its warm. Its time you and I put in a little time in our districts under the heading of "Supervision." The last cynosbati was hung up months ago and the last foreman to go is now back-country a dozen miles on a trapline, so I'm not meaning supervision of any of our men. Its self-supervision of Agent work that I'm referring to. For a few minutes, lets you and me step out of these Blister Rust Control Agent shoes that we are trying so hard to fill, and stand back a bit so we can look at them from a different angle.

A Blister Rust Control Agent in a definite district is a specialist - not only because he performs a particular line of work, but because of the knowledge of local conditions which he possesses. That is, he is a specialist on white pine and blister rust local information.

The knowledge of local conditions which he has is invaluable to him in his work, but when his work is done, what contribution will he have made to the future of forestry and forest protection from that unique store of local knowledge which he has accumulated? Is he making that information available for the foresters of the next generation?

His local dope, pooled with that of every other Agent, increases its information value because it permits comparisons, and because the sum total becomes general information applicable over a large region.

Recently, a white pine survey of Vermont was completed in a remarkably short time when the Agents pooled their local information. In another instance, about a third of the Agents in the East pooled together, measurements of canker growth, making in the aggregate a valuable contribution to our knowlecge of the disease. By the way, are you "in" on that pool, Agent? More data will help fill in the gaps and strengthen the whole - and the pool is still open.

Golly! those are big shoes! Working so hard in 'em, we didn't realize their full possibilities. Then too, they were getting run down a bit at the heel, out of sight from us standing in them. I know we can do a little better job of filling them, if we get a new slant on 'em once in a while.

Hop back into yours, Agent, and we'll be on our way. And lets make some tracks with those shoes, Old Timer, that will make the trail to better forestry a little plainer to the travelers of tomorrow.

Yours for bigger feet.

Bibee Bill

# REPORT OF THE COOPERATIVE WHITE PINE BLISTER RUST WORK IN THE STATE OF MAINE FOR YEAR 1 9 2 4.

The year 1924 created a "new high" in Blister Rust Control Work, a record that will be difficult to equal in years to come. Every total of the work done in 1923 was surpassed in 1924 by a large percentage.

Much credit for the success of the work must be given to the Blister Rust Control Agents, whose duties necessitate the most intensive and educational work. It calls for all of the qualifications of a salesman, a stump-speaker, a house-to-house canvasser, a statistician, a writer, and other trades too numerous to mention.

Educational work.

As the success of our work depends entirely upon private and town cooperation, many educational activities were used, such as holding meetings, placing exhibits, distributing descriptive literature, placing posters, writing news items, etc. During the year 33 meetings were held in 33 towns with an attendance of 1,919; 85 exhibits were placed in 67 towns, 9,078 publications were distributed in 147 towns, 74 news items published in 85 towns, 1,736 posters were placed in 132 towns.

Service work - The above forms of education are used to arouse interest and are always followed by personal interviews with town officials, pine owners, and other individuals interested in the protection of white pine from blister rust. During the year 4,555 initial interviews and 1,116 follow-up calls were held. As a result 1,749 pine owners promised to eradicate wild Ribes, 178 owners promised to eradicate cultivated Ribes and 3,109 individuals promised their moral support. Field demonstrations of the disease were given to 1,874 individuals and to 127 groups having an

attendance of 469 people. Eradication methods were shown to 1,008 individuals and to 76 groups having an attendance of 232 persons.

Totals for all Ribes eradication work in Maine in 1924.

| | |
|---|---|
| Number cooperating towns | 49 |
| Number cooperating pine owners | 1,701 |
| Acreage erad. by pine owners | 49,650 |
| Per acre cost to towns and owners | $0.38 |
| Acreage erad. by Scouts | 351,617 |
| Per acre cost of scouting | $0.013 |
| Number of wild Ribes destroyed | 1,846,759 |
| Number of cult.Ribes destroyed | 11,599 |
| Total acreage eradicated of Ribes | 401,227 |
| Per acre cost all work (average) | $0.07 |

These figures compared with those of 1923 show that the

| | |
|---|---|
| Number of cooperators increased | 48.2% |
| Number of cooperating towns increased | 25.6% |
| Town appropriations increased | 17.6% |
| Cooperators' funds increased | 21.0% |
| Acreage eradicated increased | 19.0% |
| Number Ribes destroyed increased | 52.0% |

State Leader Frost reports that the State has apparently arrived at the peak of its efforts with the present available funds. There is no doubt about the need for going into new territory, but unless more funds are provided this cannot be done until some of the present districts are finished, thereby allowing the shifting of present Agents into new territory. Most of the Ribes eradication, so far, has been in the Counties of Androscoggin, Sagadahoc, Cumberland, Kennebec, Oxford, and York.

Abstract from Annual Report for 1924.

W.O. Frost, State Leader.

Edit: Much credit should be given to Mr. Frost for his excellent report. One glance at the figures will show the splendid progress made in the State of Maine and the Agents are to be commended for their hearty cooperation in making such worth-while results possible.

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Get it started, and everybody takes it, like an epidemic.

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Shots that hit are shots that count.

WHITE PINE AND BLISTER RUST IN MAINE.

White pine is without doubt the most important tree of southern Maine. It covers a large area, is used for more purposes, and brings a larger return than any other tree in that part of our State. Therefore, its protection from fire, insects, and disease is essential to secure a continuous production and to maintain the prosperity of that region.

At present the Blister Rust is the most dreaded enemy of the white pine. The disease is now prevalent throughout the white pine area in the southern part of the State, and occurs at least scatteringly far to the north and east. To prevent its spreading the present policy that the State and the Government adopted in 1922 must be continued. The cardinal point of the present blister rust policy of the State is that the State, with such federal and town aid as may be secured, will handle the necessary educational, scouting and supervisory work but that the actual eradication of Ribes be done by the private owners at their own expense. Experience during the past two years has indicated that private owners after suitable instruction can be relied upon to do the work efficiently.

Neil L. Violette
Forest Commissioner.

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Mr. T. J. King has an interesting summary of the past year's work in the January 1925 number of the Merrimack County Farmers Bulletin, under the heading of "Forging Ahead in White Pine Blister Rust Control in Merrimack County", N. H.

Edit: Fine idea, Tom, that of making such a statement of the work for each cooperative town.

## BRER RABBIT AND THE WHITE PINE.

"The snowshoe rabbit is the one principal factor in the loss of a considerable number of planted trees in the forest plantations of northern Minnesota. Of the three principal species planted - white pine, Norway pine and white spruce - the damage is heaviest in the white pine and least in the spruce. All three, however, are so heavily damaged as to cause death in the case of any of the trees whose tips can be reached above the surface of the snow by the rabbits. It is reported that 79 percent of the trees in one plantation were eaten off by the rabbits, 43 percent fatally. In another instance practically the whole plantation of white pine was destroyed by the rabbits".

Will H. Dilg - The Call of the Outdoors.
Evening Star - Washington, D. C.

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## GOOD WORK IS ITS OWN TESTIMONIAL.

The following letter from one of our cooperators speaks for itself. Lambert must have made a hit.

Old Town, Maine
January 19, 1925.

Mr. W. O. Frost,
Augusta, Maine.

Dear Mr. Frost:

Our eradication work last spring covered of course only a part of the properties which we wished to clean up of Ribes. How are the chances to continue the work this coming spring with the same man in charge if possible. I do not imagine we can complete the work this spring but we could clean up another hundred or two acres and then keep at it until it is all covered.

I would like to know what the chances are. With kind personal regards, I am

Yours very truly,

## IS BLISTER RUST INCREASING ?

Is Blister Rust increasing? The answer is YES! But this YES can be applied in a limited sense! YES, Blister Rust IS increasing, but ONLY in those areas from which the currant and gooseberry bushes have NEVER BEEN REMOVED. Blister rust is generally distributed throughout all the towns in Merrimack County. Inspections of woodlots have shown this. In certain sections of some towns it has advanced more rapidly than in others. A partial list of Merrimack County towns where such conditions exist are as follows:

Andover, a lot showing 50% infection- Bradford, a lot showing 70% infection- Canterbury, a lot showing 80% infection - Chichester, several lots showing 50 to 80% infection - Franklin, a lot showing 75% infection - Hooksett, a lot showing 60 to 70% infection - Loudon, a lot showing 50% infection - Newbury, a lot showing (100 acres) 100% infection - New London, a lot showing 60% infection - Pembroke, a lot showing 70% infection - Pittsfield, several lots showing 55 to 89% infection - Sutton, a lot showing 90% infection - Warner, a lot showing 60% infection - Webster, several lots showing 30 to 50% infection - Wilmot, a lot showing 90% infection. Studies of these areas have revealed some startling facts, namely:

1. These conditions have developed in areas where the removal of currant and gooseberry bushes has either been delayed or never attempted.

2. These conditions have developed during the past few years.

3. The longer control work is delayed the worse conditions are becoming.

4. The destruction of the currant and gooseberry bushes in the areas

that have been examined has checked further spread of the disease.

5. Our white pine, especially the young growing pine, has no future unless control measures are promptly applied.

The control measures advocated cannot be applied unless properly financed. The towns of the State must back the programme of work already under way in a more whole hearted manner if it is to be most successful, i.e. our white pine properly protected with the least possible damage having been done to it by Blister Rust.

Thos. J. King -

In Merrimack County (N.H.) Farmers Bulletin - January 1925 - Pg.6.

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## IS THIS THE LARGEST WHITE PINE GROWING IN NEW ENGLAND?

Near the site of old Fort Dummer, a few miles below Brattleboro, Vermont, is a large white pine 5 feet in diameter at breast height, and over 100 feet in height. The associates of the old veteran are hardwoods and hemlocks, with occasional white pine.

Legend has it that Indians used to hold their councils 'neath the pine away back in early Colonial days and then proceed, down the gully in which it grows, to the attack of Fort Dummer.

Mr. A.E. Fivaz has 3 good snap shots of this old pine. Mr. S.V. Holden, Blister Rust Control agent at Brattleboro can direct anyone to this tree.

## MASSACHUSETTS AND THE BLISTER RUST.

A Report of Cooperative Blister Rust Control in Massachusetts for the Calendar Year 1924 has been submitted by C.C. Perry, State Leader of Massachusetts. This is an excellent report of the work accomplished in that state. Extracts from it are quoted for the information of all engaged in blister rust control. They show the valuable work now being carried on and stress the importance of strengthening our efforts along this line.

In a total of eleven counties, 171 towns have pine infections.

1924 - Summary of Educational Work -

| | |
|---|---|
| Number of local meetings attended ..... | 59 |
| Attendance at meetings ..... | 4,642 |
| Number of exhibits placed ..... | 64 |
| Number of circulars distributed ..... | 11,469 |
| Number of news items prepared ..... | 250 |
| Number of posters placed ..... | 416 |

Summary of Service Work -

| | |
|---|---|
| Number of initial interviews ..... | 4,483 |
| Number of follow-up calls ..... | 1,831 |
| Number of field demonstrations to individuals | |
| Instruction in identification and damage | 924 |
| Instruction in the practice of control work | 1,245 |

From the above figures, it is quite evident that a very special effort has been made to place before the public the essential facts concerning blister rust and its control.

The success of cooperative control work depends upon the degree to which the educational and service work is successful in securing the cooperation of property owners. That this preliminary work was successful, is indicated by the fact that 2,544 owners have taken some active part in cooperative work and have assisted in the uprooting of 1,411,166 wild and 38,777 cultivated currant and gooseberry bushes in an effort to protect the white pine now growing in the communities in which they reside or where

they own property. This record represents an increase of 141% over the number of individuals cooperating in the work in 1923. In carrying on this protective work, the owners have been willing to expend the equivalent of $11,527.04, this amount constituting an increase of 67% over last year's expenditures. 1,564 owners sacrificed their fruit-producing bushes without requesting reimbursement from the state. This figure represents a gain of 167% in this type of cooperation and speaks well for the effort which is being made to carry on this phase of the work, not by and with the authority of the law, but by means of persuasion and an appeal to the community spirit.

Summary of Control Work.

| | |
|---|---|
| No. cooperators removing wild Ribes . . . . . | 980 |
| No. cooperators removing cult. Ribes . . . . | 1,564 |
| Total No. cooperating land owners . . . . . | 2,544 |
| Estimated area of pine protected . . . . . | 98,318 |
| Total land area examined for Ribes . . . . | 150,876 |
| Total No. wild Ribes removed . . . . . | 1,411,166 |
| Total No. Cult. Ribes removed . . . . . | 38,777 |
| Average cost per acre . . . . . | 19¢ |
| No. of towns where work was conducted - 70 | |

The records of the work of the year 1924 indicate that commendable progress has been made in the task of advising the pine owners of the state concerning blister rust and its control. More individuals than ever before have become familiar with the blister rust problem and the efforts which are being made to cope with the disease.

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He who generates enthusiasm, can't be defeated.

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## BLISTER RUST MAKING A CLEAN SWEEP.

Blister Rust infection data collected on a lot near the Alvin Oxton place, Rockville, Rockland, Maine, January 19-20, 1925. This area is of about seven or eight acres of pasture type, with wet grassy area running north and south through middle. Pines scattered throughout, also wild gooseberry bushes. A few hundred feet north are many escaped cultivated red currants.

The 303 trees examined constituted about 33% of the number that cover this area, the area examined being also about 33% of the total area. There is no doubt that the high percentage of infection prevails over the entire lot. The trees are from 1 to 27 feet in height, although very few were over 15 feet, the average height about 8 feet.

The percentage of kill will be nearly 100% because 62.5% of the 82% of the trees infected have stem cankers. The other 20% of infection will be stem infection within a few years. The oldest infection occurred 1917. The 18% not having blister rust will surely become infected -- there being no escape unless the cause (currant and gooseberry bushes) is removed.

303 trees examined
248 trees or 82% infected with blister rust
155 of the 248 infected had stem cankers, or 62.5%
Only 55 of the 303 trees were clean at end of 1924 or 18%
Height of trees ranged from 1' to 27' -- average height of 8 ft.
Average height of trees having stem cankers - 7 ft.



Augusta, Maine
January 27, 1925.

W.O. Frost
State Leader
Maine Forest Service
Blister Rust Control.

## NEW HAMPSHIRE USES NEW WAY OF PRESENTING BLISTER RUST TRUTHS

In Considering

Town Cooperation in Blister Rust Control.

* * * * *

### Ten Facts Regarding Blister Rust

(1) Blister Rust is a BARK DISEASE, not a bug or worm as many people believe.

(2) It is of European origin, and found its way into the U.S. on nursery stock.

(3) It is absolutely fatal and kills old as well as young white pines.

(4) It has been found in every white pine town in New Hampshire.

(5) Blister Rust cannot spread directly from infected to healthy pines.

(6) It spreads from infected pines to currant and gooseberry bushes and from these plants to nearby white pines.

(7) An average increase of infection of 8 to 15 percent takes place yearly in localities where no control work has been conducted.

(8) Pine lots found free from Blister Rust do not contain currants or gooseberries.

(9) 16,252,439 currant and gooseberry bushes have been destroyed in New Hampshire since 1918, over areas aggregating 1,360,312 acres.

(10) REMEMBER: Destroying currant and gooseberry bushes stops the spread of this fatal disease among the white pines.

## TEN REASONS WHY YOUR TOWN SHOULD COOPERATE IN BLISTER RUST CONTROL.

(1) White Pine, our foremost native pine, is adapted to soils unfit for agricultural crops.

(2) White Pine pays a large percent of the taxes in most New Hampshire towns.

(3) White Pine has paid off mortgages and educated families.

(4) Its logging and manufacture provides employment for thousands of people.

(5) White Pine is capable of being of even greater economic value and importance than ever before.

(6) Pine lots seriously infected by Blister Rust are being located continuously.

(7) White Pine under 20 years of age, infected by Blister Rust, will not live to reach box-board size.

(8) Wild currants or gooseberry bushes are common throughout pine lots.

(9) The time to save your pines is before they become seriously infected, -- not after.

(10) The majority of voters in 167 New Hampshire towns believing Blister Rust serious and their pines worth protecting, have voted appropriations.

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Is not the destruction of currants and gooseberries a small price to pay for the protection of such a valuable tree?

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For further information write, The State Forester, Concord, N.H.
or
The Blister Rust Control Agent.
(Address of Agent to be stamped here.)

## SUMMARY OF RIBES ERADICATION IN NORTHEASTERN STATES.

| State | Acreage Eradicated 1923 | Acreage Eradicated 1924 | %Increase or Decrease |
|---|---|---|---|
| Maine - - - - - - - - - - - - | 336,452 | 401,227 | +19.2 |
| New Hampshire - - - - - - - - | 268,237 | 319,588 | +19.1 |
| Vermont - - - - - - - - - - - | 25,190 | 25,688 | + 1.9 |
| Massachusetts - - - - - - - - | 201,931* | 159,776* | -26.3 |
| Rhode Island - - - - - - - - | 31,308 | 52,480 | +67.6 |
| Connecticut - - - - - - - - - | 14,062 | 17,215 | +22.4 |
| New York - - - - - - - - - - | 15,459* | 25,197* | +62.9 |
| | 989,986 | 1,001,171 | |
| | | 4,976 - White Mountain Nat'l Forest. | |
| | | 1,006,147 | |

*Includes State land work

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NEW USE FOR FRANKED POSTCARD from N. H.


At _____

in _____, N. H. on _____, 1925

Time _____P. M. There will be discussions relating to the control of the White Pine Blister Rust. Come and get acquainted with Blister Rust conditions in your town and state. Learn why 167 towns have carried on control work. Management of the Farm Woodlot and other forestry problems will also be discussed.

_____
Blister rust Control Agent

_____County

CHANGED HIS MIND ABOUT BLISTER RUST.

You have heard of a feed called "Lay or Bust"
But have you heard of the Blister Rust?
It 'aint no bug nor a gol durn worm,
Nor it 'aint the name of a grocery firm.
It 'aint no cat nor a breed of dog,
Nor a cow, nor horse, nor a red haired hog.

The feller said 'twas a Fungus pest,
That gets on the pines and kills the best.
Said it girdled the trees around the trunk;
But that sounded to me like a lot of bunk.
It didn't seem just right to me
That this new pest would kill a tree.

I went with the feller, right down on the lot,
And saw my pine trees that good money had bought
All covered with blisters; some dying and dead,
Now, when I saw this, I believed what he'd said.
The needles were turning, the tops had all browned;
While many had broken and lay on the ground.

Says I to myself, "If this's what it be,
In a very short while I won't have a tree."
He showed me the bushes that grew by the wall,
Gooseberries a planty but this was not all;
Red and skunk currants, some tall and some short;
We found them well scattered all over the lot.

For the pines that are dying, we must place the blame
On currants and gooseberries, both wild and the tame.
From pine to the bushes, then back to the trees;
That's how 'tis spread by the gentlest breeze.
If we uproot the bushes, and hand them to dry,
We'll stamp out the blister and our pines will not die.

Our forests mean money, as every man knows,
Which each of us needs to buy food and clothes.
Town Meeting is coming, 'tis not far away;
Then you, fellow voters, will each have your say.
Our Town should raise money, and help out the State
To protect our pine timber before 'tis too late.

S. D. Conner

Clipping from: Press Herald - Portland, Maine. February 8, 1925.

Massachusetts Forestry Association Backs Up Blister Rust Control in Practical Way.

"The Massachusetts Forestry Association will plant free of charge 5,000 forest trees (about 5 acres) for any city or town (in the state) that will place 100 acres or more under the Town Forest Act during the calendar year 1925. The area may be in one or more tracts. It is understood that the city or town will clear the land for planting if necessary, remove the wild currant and gooseberry bushes on the tract if white pine is to be planted, and agree to give the trees reasonable care and protection after they are planted.

The New England Box Company has duplicated this offer to the towns of Franklin County."

Extract from Bul. 139 Massachusetts Forestry Association, "Town Forests in Massachusetts, Report of Progress -November 1924.

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RIBES SUBSTITUTE - - THE HIGH BUSH CRANBERRY.

Mr. Corliss, while on a trip in Maine, had an interview with Mrs. Nellie N. Percy, 117 Congress Street, Rumford, Maine. Mrs. Percy is well known in that region for her ability in preserving and canning fruits and she told Mr. Corliss that these bushes grow on Erroll Hill Farm, Ambagog Lake, Maine. She has gathered these berries and made jelly out of them for a number of years. She also stated that her mother cultivates them in St. Johns, Nebraska. Her recipe for making jelly from the high bush cranberry is as follows:

Clip stems of berries, wash berries, cover with water and cook until they burst. Strain through a bag and add one cup of sugar to one cup of juice. Boil 20 to 25 minutes and let jell and cool, then paraffin top.

Mrs. Percy states that this fruit makes a very fine jelly which she likes very much.

## TOWN REPORTS

### AN IMPORTANT PART OF MY EDUCATIONAL WORK IN ANDROSCOGGIN AND SAGADAHOC COUNTIES.

There is one thing every Town voter likes to know, namely:- "How is this or that money being used? Is it necessary? What are the results?" Consequently they have their Annual Town Reports to enlighten them on all of these various subjects.

At the close of the season in 1923, I began to wonder how I could place before the Town Officials and Citizens within those of my towns, which appropriated money for Blister Rust Control Work, a summary of how their funds had been expended and what accomplishments we had made in controlling the White Pine Blister Rust. Then the thought of their Annual Report came to me. Why not get up a Blister Rust report covering all phases of the work and present it to each Board of Selectmen, stressing upon them the importance of including it in their Annual Town Report?

With this idea in mind I got busy and soon had a report for each town. These reports were similar for each town with the exception of figures. They consisted of a narrative page, a summary page, and a U.S.G.S. Town Map showing by years the progress made.

In each case I found the Town Officials much pleased with these reports, and in nearly every town where available space was to be had in their Annual Report they included the Blister Rust Report verbatim.

The reports for the town covering the work of the past season were similar in form to those of 1923. This year a copy of the report and map have been placed in the local Post Office in each of the towns.

Guy H. Kimball.

S A M P L E.

To the Board of Selectmen,

Town of Lisbon, Maine.

Gentlemen:-

Another season of Blister Rust Control work has passed, and following the custom established in 1923, it is with pleasure that I submit this report on what has been accomplished in the Town of Lisbon during the season of 1924.

* * * * * *

While we advocate that the largest percentage of the bushes are removed the first time over the property, yet it is impossible to get every bush. Therefore we earnestly urge that those who have gone over their property once will look it over again from time to time for any stray bushes. In this manner their lands will be kept free from these carriers of the Blister Rust.

We were successful in accomplishing more during 1924 than 1923, thus being able to complete the remainder of the Town. Combining the two years' work we have a total of 151 owners removing 116,520 wild and 154 cultivated currant and gooseberry bushes from 2,866 acres. Blister Rust Scouts looked over and eliminated 12,389 acres. On the property of 125 owners, pines were found to be diseased with Blister Rust and 25 of these were generally infected areas. The estimated acreage of white pine protected by this Control Work is 2,361.

This year we completed the work in the Town so there will be no need of an appropriation in 1925. In four or five years it is possible that the Town may have to be re-worked to get the currant and gooseberry bushes which may have sprung up since the first working.

I wish to thank the Officers and Citizens of Lisbon for their hearty cooperation in Blister Rust Control Work, and shall be glad to assist you at any time in any matter concerning this work.

Respectfully submitted,

Guy H. Kimball,

County Blister Rust Control Agent.

## BLISTER RUST NOTES FROM NEW HAMPSHIRE.

Agent Boomer of Conway writes that "I have been examining a large property in Tamworth for Blister Rust. It contains about 2,000 acres. There is one infected area where many large trees have trunk infections caused by cultivated bushes which have been removed. Spot infections have been found in each block scouted.

Cooperates with Maine agent -

"I received the best kind of cooperation from Mr. D.S. Curtis, Blister Rust Agent for Oxford County, Maine, in arranging a joint exhibit at the Fryeburg Fair. There were 10,000 people at the Fair the second day.

Apples for Currants -

"A few cultivated currant bushes which were left until the fruit was gathered have been pulled. It seems to leave the owners in a better frame of mind if the bushes are removed in the Fall or at least after the currants have been picked. One lady asked me if I would mind picking a few apples for her to offset the loss of the bushes. It was 11:30 so I told her I would pull the bushes and then pick apples until lunch time. I pulled eight nice bushes, picked a bushel of apples and everybody seemed satisfied.

Can't raise White Pine fast enough -

"Mr. L.N. Watson inspected white pine nurseries in Fryeburg and Freedom a few weeks ago. The nursery in Fryeburg is on the State line, part of it being in Conway. Mr. Clifford Eastman, the owner, stated that he cannot raise seedlings and transplants fast enough. The nursery in Freedom is owned by Dr. A.R. Rogers of Boston and the pines are to be used in planting his own land. There is some Blister Rust on his land but the currant and gooseberry bushes have been removed and Dr. Rogers feels safe in planting white pine."

Extracts from New Hampshire Forestry Department
News Letter for January 1925.

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## LANTERN SLIDES ON WATERFORD AREA

New lantern slides are being prepared showing views of the badly infected area at Waterford, Vermont. Real damage to large pine is shown in this set of 15 slides. The first set all colored was forwarded Mr. Filler Feb. 5, for special meeting in New Hampshire.

Fourteen additional sets are being colored as rapidly as possible for field use.

## WESTERN WHITE PINE AND EASTERN WHITE PINE COMPETING FOR THE MARKETS OF THE MISSISSIPPI VALLEY.

The area covered by the zone of the commercial western white pine type is relatively small; it is confined to the panhandle of Idaho with a little additional territory in the extreme northeastern part of Washington and the extreme western part of Montana. Commercial stands of white pine are found from the Canadian line as far south as the Clearwater River. The total area actually covered by the white pine type is probably somewhere between one and one-half and two million acres. This is a very small territory compared with the commercial stands formerly covered by eastern white pine in the Lake states and in New England. The territory in which white pine is represented extends all through the west slope of the Cascades, in Oregon, Washington, and at a great many places in the Sierras of California, but such occurrence, while more than botanical, can hardly be considered as of very great commercial importance.

The market to which the bulk of the Idaho white pine is sent is the great middle part of the United States throughout the upper part of the Mississippi Valley, the same market into which eastern white pine from the Lake states found its way and with which Idaho white pine will be forced to compete when the next crop is harvested. New York, New England or Pennsylvania will have no difficulty in finding a market for its white pine in the immediate territory in which it is grown. The growing population of the West will probably use an increasing part of the crop to be grown in the future, but a part of it must seek a market farther east. The present forest area in the Lake states is estimated at about 57,000,000 acres, of which the last statistics as published in the Agricultural Year Book for 1922 give the area of beech, birch and maple forest lands as 16.5 million

acres and of pine lands 7.5 million acres, or of both, 24 million acres. The white pine grew along with the hardwoods as scattered trees and occasionally as nearly pure stands on the pine lands. Of the 24 million acres upon which more or less white pine has grown in the past, probably not to exceed between four and six million acres could be considered as likely to grow white pine in any thing like pure stands in the future. There is, therefore, a possibility of competition in the Lake states with white pine grown on an area from two to three times greater than that which exists in Idaho. This, however, is a problem for the future to decide. There is a relatively small area of second growth white pine in the Lake states and little effort has so far been made to grow a second crop. There is every reason to believe that all of the white pine which can be grown in Idaho, in the Lake states, or in the Northeast will find a ready market at very high prices. The intrinsic value of the wood is so great and its value so well established and so well known through long use that there is little doubt that all which will be grown can be marketed at prices which will pay the cost of growing plus a fair profit to the grower.

Forestry Practice and Possibilities in North Idaho - John F. Preston
The Timberman - Issue of May, 1924.

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Success is not a secret, it is dig! dig!, dig!

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The valuable man is the one who can and will cooperate with other men.

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NEW HAMPSHIRE AGENTS HOLD GOOD MEETINGS.

"The Blister Rust folks can't pull up currant and gooseberry bushes in winter but do aim to interest people in pulling them up when the work is possible. Indoor and outdoor meetings are held all over the state. During the month of October 45 meetings were held with a total attendance of nearly 2,000 persons. November records are not yet complete but 32 meetings have been held to date and about 1,700 persons attended. The main topics discussed are Blister Rust with suitable demonstrations and Farm Woodlot Management. At two recent meetings a total of 220 people attended. The more prominent meetings to date have been the Pittsfield, Alexandria, Windham and Nottingham meetings."

New Hampshire Forestry Department News Letter
January, 1925.

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SPECIMENS OF BLISTER RUST RECEIVED FROM THE WEST.

Through the courtesy of the Spokane Office, a nice collection of Cronartium ribicola on Ribes bracteosum from Quilcene, Olympia, and Port Gamble, Washington, has been received, together with specimens of the rust on Ribes nigrum from Eglon, and Hansville, Washington and Grossularia divaricata from Quilcene, Washington. These specimens were collected between October 15 and 25, 1924 by Messrs. L.N. Goodding, E.M. Hornbrook, T.D. Mallory, and others. The collections were made in Jefferson, Kitsap, and Thurston Counties, all west of the crest of the Cascade Mountains. The collection has been divided between the Office of Pathological Collections, and the Office of Forest Pathology which is making a special study of the rust on Ribes leaves.

Edit: This is a good start and the specimens are much appreciated.

SOME MAINE FACTS ABOUT WHITE PINE AND BLISTER RUST CONTROL WORK

The object of this work is to accomplish control of the White Pine Blister Rust in Maine because of the present and potential value of the white pine forests and their economic importance in timber production and forest conservation. The Blister Rust threatens the destruction of white pine in unprotected areas.

I. Present Stand of Commercial White Pine (P. Strobus) in the East.

| Location | Species | Amount (U.S.For.Ser.Estimates) |
|---|---|---|
| 1. Eastern States (N.E., N.Y., Pa., Md., W.Va., S.C., Ky., Tenn., Ga.) | White Pine | 15.5 billion bd. ft. |
| 2. Lake States (Minn., Wis., Mich) | " " | 6. billion bd. ft. |
| | TOTAL | 21.5 billion bd. ft. |

The standing white pine timber in the Eastern and Lake States is estimated at 21.5 billion board feet, valued at approximately $285,950,000. Of this amount about 5 billion board feet valued at about 50 million dollars occur in Maine. The harvesting and utilization of this timber sustains many industries and gives employment to the residents of such areas. In addition there is a large acreage of second growth and young reproduction which, if protected from blister rust, will become the forest crop of the future. The perpetuation of the white pine is considered of great importance by foresters because of its rapid growth, high yield, excellent wood and adaptability to forest management.

Of the 1,045 wood-using industries in Maine, over 75% use more or less white pine.

II. White Pine leads all other species in Maine's annual cut, as shown by the following table. (Maine Forest Service Bulletin No. 3, "The Forests of Maine.")

| | 1919 | |
|---|---|---|
| | M Feet | Per Cent |
| White Pine | 223,843 | 37.5 |
| Spruce | 208,645 | 35. |
| Hemlock | 85,542 | 14 |
| All others | 78,086 | 13.5 |
| | 596,116 | 100.00 |

III. White Pine stumpage prices of former days, when pine was pine -- old virgin stuff--squared timber selling by the ton at $1.00 per.

Maine Stumpage Figures in the Early Days

(From Timber Sales Book, Maine Forest Service)

| Date Purchased | Quantity Cut | Price | Amount |
|---|---|---|---|
| 1838 | 596 sticks, 1609 tons | $1.00 | $1,609.00 |
| 1840 | Pine 16.814 | 2.00 | 33.62 |
| 1840 | Timber P. 372,395 | 2.25 | 837.88 |
| 1840 | Saplin P. 187.640 | 2.00 | 375.28 |
| 1840 | Dry P. 136.50 | 1.00 | 13.65 |
| 1841 | Pine M 87,380 | 2.00 | 174.76 |
| 1841 | Pine Ton 3 1/10 | 1.00 | 3.10 |
| 1850 | 105 pine sticks, 168 tons | 1.00 | 168.00 |
| 1852 | 20,000 ft. pine logs | 2.00 | 40.00 |
| 1852 | 32 tons pine logs | 1.50 | 64.50 |
| 1854 | Pine 800 logs, 90,000 | 1.00 | 90.00 |
| 1856 | 30 pieces pine 45 tons | 2.00 | 90.00 |
| 1858 | " " " 20 " | 2.00 | 40.00 |
| 1858 | 23 pine logs 11,023 feet | 4.00 | 44.00 |
| 1858 | 90 " " 22,970 " | 3.00 | 68.91 |

N.B. They figured 500 bd. ft. to the ton

IV. Coming down to comparatively recent days, the average prices were:

| | |
|---|---|
| 1912-14 | $6.00 to $8.00 per M. |
| 1915-16 | $8.00 to $9.00 per M. |

Then war times sent stumpage up, prices ranging in 1917 to 1919 from $10.00 to $15.00, some extra good lots bringing over $18.00 per M. In 1920 prices broke dropping to $12.00 and 10.00, and even to $8.00 per M. Since then prices have remained around these figures. In January 1925 ordinary box board stuff, a grade below that used for building purposes, bringing $8.00 and $10.00. One lumberman speaks of stumpage prices as follows, "For a cheap lot he pays $8.00, for a good one $10.00, and for a nice one $13.00." (Of course these figures are conservative, there being some leeway or variation in the purchase price, all depending on how close a trade the buyer can make with the owner, the location of the lot, etc.)

V. The average value of commercial white pine in the U.S. in 1922 and 1923. Figures taken from U.S. Forest Service estimates.

| Species | Stumpage | Lumber |
|---|---|---|
| White Pine | $13.30 | $36.37 FOB mill |

In 1922 an intensive service campaign was begun in cooperation with the United States Department of Agriculture to obtain the general application of control measures by land-owners in white pine regions in order to protect this crop from Blister Rust and to assure its continued production. It is estimated that it will require about eight years to complete the initial eradication of Ribes. Public interest and cooperation in this work has been exceptionally good and the campaign is making rapid progress.

VI. Increase in number of towns and individuals expending funds for cooperative control work since beginning of control campaign.

| | 1922 | 1923 | 1924 |
|---|---|---|---|
| No. towns cooperating | 8 | 39 | 49 |
| No. individuals cooperating | 464 | 1148 | 1701 |
| Percent of increase in cooperating towns | | 388 | 25.6 |
| Percent of increase in cooperating individuals | | 147 | 48.2 |

VII. Funds appropriated by towns and individuals for cooperative control work.

| | 1922 | 1923 | 1924 |
|---|---|---|---|
| Town appropriations | 1,300.00 | 6,899.99 | 8,154.25 |
| Individual funds | 4,409.32 | 8,760.34 | 10,619.58 |
| Percent of increase in town appropriations | | 437 | 17.6 |
| Percent of increase in individual funds | | 98.7 | 21. |

VIII. Acreage eradicated of Ribes in cooperative control campaign.

| | 1922 | 1923 | 1924 |
|---|---|---|---|
| No. of acres freed of Ribes | 190,209 | 336,452 | 401,227 |
| No. of Ribes destroyed | 452,975 | 221,375 | 1,858,355 |
| Percent of increase in acreage eradication of Ribes | | 77 | 19 |
| Percent of increase in number of Ribes destroyed | | 170 | 52 |

From 1922 to 1924 a total of 3,532,910 Ribes, currant and gooseberry bushes, were eradicated from 927,888 acres of land. Cooperating towns and individuals spent $40,143.48 in applying protective measures to white pine stands. Prior to 1922 a total of 660,308 Ribes were eradicated on 180,630 acres in the connection with the development of practical control measures in cooperation with the United States Department of Agriculture. In all a total of 4,193,218 Ribes have been eradicated on 1,108,518 acres of land in the infected portions of the State.

Infection Conditions in Maine

During January and February 1922 the white pines on 39 miles of rod wide strip lines in Maine's white pine region were examined to determine the percent of pine infection. This survey showed that 7.2 percent of the 8,016 pines on the strip were diseased. Sample plots taken in many places show even greater damage; one in the town of Poland in Androscoggin County showed that of 129 trees examined, over 53% had Blister Rust; a second plot in the town of Bowdoin, same county, showed that 90% of 158 trees had Blister Rust. In the town of Rockland, Knox County, where there is very little white pine, the disease is killing off what little reproduction there is. In January 1925 a sample plot shows that of 303 trees examined, 248 or 82% had Blister Rust. As 62.5% of the diseased trees have trunk cankers, it is readily seen that this bunch of pines are as good as dead at the present time; all due to the presence of currant and gooseberry bushes within 900 feet. In the town of Buxton, York County, examination of a small plot showed that of the 506 trees examined 340 or 67% had Blister Rust. These figures show what is taking place in white pine reproduction.

The amount of pine infected in unprotected areas is steadily increasing, making necessary the prompt application of control measures to protect and assure the continued production of the white pine crop of Maine.

Summary of Ribes Eradication in Maine by Periods

| Periods | Acres | No. Ribes | | Total cost of eradicating bushes | Per Acre | |
|---|---|---|---|---|---|---|
| | | Cult. | Wild | | Cost | No. Ribes |
| 1918-1921 | 180,630 | 1,579 | 658,729 | $19,708.14 | .109 | 3.1 |
| 1922-1924 | 927,888 | 27,382 | 3,505,528 | $50,439.55 | .054 | 4.0 |

W.O. Frost.

## TO SAVE THE NATIVE PINES.

A greater campaign against the white pine blister rust than has been waged thus far in New York is being planned for 1925 by the Conservation Commission. This marks the eighth season's work in the control of this disease in this State. More than 200 men were actively engaged in this fight in New York during the past year.

The progress of blister rust control in 1924 is shown by the following figures:

| | 1923 | 1924 |
|---|---|---|
| No. acres of white pine freed of Riber | 15,459 | 25,262 |
| No. acres eradicated which were owned by private individuals | 10,025 | 19,229 |
| No. of individuals for whom Ribes were eradicated | 57 | 160 |

Increase in amount of privately owned land on which Ribes were eradicated in 1924, over that of 1923 - - - 92%

Increase in the number of private individuals who protected their white pine from blister rust in 1924, over that of 1923 - 180%.

Any white pine owner in New York can have his white pine examined for blister rust free of charge. The Conservation Commission will furnish the owner a trained foreman to supervise the work of destroying the currant and gooseberry bushes from among his white pine.

Studies were made to determine effectiveness in the control of white pine blister rust by the destruction of Ribes. A careful test was made on a large tract of white pine near Chestertown, where the currant and gooseberry bushes were pulled in 1918 and in large adjoining tracts of white pine where these bushes were not pulled. In 1918 one percent of all the white pine trees in these tracts had blister rust. In the fall of 1923

when the study was made, there had been no further spread of blister rust in the tract where the bushes had been pulled in 1918, but in the tracts where the bushes had not been pulled there was 15 times more blister rust than in 1918.

The work in the control of blister rust shows that when the currant and gooseberry bushes within 900 feet of a tract of white pine are pulled up and disposed of in such a way that they cannot sprout, the further spread of blister rust stops.

The Star - Oneonta, New York, Feb. 9, 1925.

Note: The State of New York and the U.S. Department of Agriculture are cooperating in the control of the blister rust as is done in all other infected states. We are glad to note that reports from the various states have been highly satisfactory.

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During the months of December 1924 and January 1925, there were 23 lectures given in 23 towns of Maine; a total of 583 persons in attendance. At these Farm Bureau Planning Meetings Oxford had the best average attendance of any County in the State. Without doubt this was due to the pictures that were put on the screen.

D. S. Curtis

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Mr. George F. Richardson in a recent letter concerning his field meeting held early in the winter, at Alexandria, New Hampshire, says: "It was a cold day but I had 20 odd out to see the infection area and that night I addressed the Bristol Board of Trade where we had 63 present and a very good meeting. They have a Forestry Committee which works with me in putting things across."

## BOOKS WORTH READING.

The following books are suggested to Agents as worth while reading. They will give you new ideas that will be helpful in developing methods of approach and preparing better plans for carrying out the educational features of your work.

1. Mind of the Buyer - Kitson.
2. Influencing Men in Business - Scott
3. Salesmanship and Personal Efficiency - Knox
4. Principles of Advertising - Scott
5. Advertising - Starch.

You can probably secure these books from a local public library.

J. F. M.

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## OWED TO WHITE PINE

White pine is an asset,- Conserve it.

White pine lifts mortgages, - Let it.

White pine provides shelter,- We need it.

White pine furnishes employment, - More of it.

White pine works for us, - Let's help it.

White pine needs protection,- Why does it?

Blister Rust's its pest,- Control it!

Roy G. Pierce

## [illegible] FOURTH [illegible]

The following books are suggested as being of worth while reading. [illegible] will give you more ideas. You will be minded to develop a method of [illegible] a supporting lesser plans for carrying out the [illegible] of our work.

1. [illegible] - Kiesel.
2. [illegible] in Business - Frost.
3. [illegible] and Personal Efficiency - Dale.
4. [illegible] of Advertising - Scott.
5. [illegible] - Starch.
6. [illegible] Home Life - Home [illegible] Bureau.

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## [illegible]

Make [illegible] - Current [illegible].

[illegible] Life [illegible] - [illegible].

[illegible] - Good [illegible].

[illegible] - [illegible].

[illegible] - [illegible].

[illegible] - [illegible].

[illegible] - [illegible].

[illegible] - [illegible].

[illegible]

## THE FARM WOODLOT IN MAINE.

The farmers of Maine are fast learning that the crops taken from the woodlot are some of the most valuable crops which can be grown on the farm. The woodlot is one of the farmer's greatest assets. The income which is derived from the woodlot along with the material it furnishes in the way of fuel, fence posts and building material for use on the farm greatly increases the value of the farm. The woodlot will furnish labor for teams and help in winter when it is often a problem to know just what to do with them. The sale of surplus woodlot products is becoming easier and more profitable. With the rising prices which the national shortage of both hardwoods and softwoods has brought about, the owner will find it largely to his interest to care for his woodlot as he would care for other farm crops and to extend it to lands otherwise idle or of low value for other farm purposes. If properly cared for, the woodlot will furnish at intervals a valuable crop. If neglected or abused it is bound to deteriorate while worthless trees will often take the place of the more commercial trees.

At present the average farm woodlot is not producing what it should produce, due to mismanagement. In order that the woodlot may produce the greatest amount of valuable wood material it must receive care and attention throughout its rotation. A growing woodlot left to itself will produce a stand of slow growing, irregular and defective trees. A little foresight and care such as are given to any other crop will give profitable results and make possible the growing of more valuable trees in a much shorter time.

No far-sighted farmer will intentionally till his land in such a manner as to reduce the fertility of a soil to a point where it will produce only one-half or one-fourth of a crop and yet that is the condition into which the woodlot has been brought. Not only has the woodlot depreciated but the

value of the farm as well.

Farmers in Maine are realizing that waste land can be made valuable by planting it to forest trees.

White pine is by far the most popular tree planted by the farm woodlot owners. Possibly 90% of all trees planted in Maine by the farmer is white pine. On the whole it is the most rapid growing native tree of Maine. There are two very serious enemies which threaten the commercial value of this native tree, namely the white pine blister rust which was accidently introduced into this country from Europe and the white pine weevil which is native to this country.

Several forest tree planting demonstrations were held last year with a very good attendance. Fifty planting demonstrations have been arranged for the spring of 1925. Any farmer contemplating the planting of white pine should first of all eradicate thoroughly all species of currant and gooseberry bushes which are the carriers of the pine rust. Luckily this disease can be controlled and therefore the planting of white pine should never be discouraged. Let every farmer who has an acre or more of waste land or land that he is not using to its best advantage, plant forest trees. He will thereby have an investment that will return not only the capital invested but a good rate of interest as well.

There is no branch of farm woodlot forestry of greater importance than forest tree planting with the one possible exception of the improvement of our existing woodlots with good methods of marketing the products.

M.E. Watson
Maine State Agent in Forest Extension.

# MOTION PICTURES

The Pines

"The new motion picture "The Pines" was shown at West Rumney and Piermont. Judging from the applause it received, it surely pleased the audience. Certainly congratulations are in order for the excellent manner in which this picture was put on. I firmly believe that the moral will be understood and help secure more extensive cooperation".

- Letter from T.L. Kane, New Hampshire.

The attendance at West Rumney meeting was 100 and at Piermont 90. Two other meetings were held during his same week, January 26 to 31, at Bath, with an attendance of 48 and at North Haverhill with an attendance of 60.

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Blister Rust Motion Pictures.

The popularity of our blister rust films is shown by the fact that on January 23, there was not a single one of the 8 different films available.

In order that you may know to what extent the Office believes in Motion Pictures as a means of education, the name of each film and number of copies of each is listed below:

| | | | | |
|---|---|---|---|---|
| Reel 1. | The Story of White Pine - - - approximately | 1,100 feet. | 3 | copies made. |
| " 2. | Logging Eastern White Pine - - " | 1,000 " | 3 | " |
| " 3. | Nature's Crop of White Pine - - " | 1,000 " | 3 | " |
| " 4. | White Pine - The Wood of Woods - - " | 1,000 " | 3 | " |
| " 5. | White Pine - A Paying Crop for Idle Lands " | 1,000 " | 3 | " |
| " 6. | White Pine - Beautiful and Useful | 908 " | 3 | " |
| " 7. | White Pine Blister Rust, A Menace to Western Timber | 1,000 " | 8 | " |
| " 8. | The Pines | 2,000 " | 1 | " |
| | | Total - | 27 | " |

Besides these films owned by the Federal Government, a number of states have purchased these films for their own exclusive use.

MOTION PICTURE SERVICE

The following memorandum was prepared by Mr. F.W. Perkins for the use of extension workers. It is quoted below as it contains information of value to our field employees who use motion pictures. (Paragraph 7 has been changed to meet our suggestions, while a note has been added to Paragraph 9.

In order that extension workers may obtain the best film service possible, the following regulations and conditions under which the work of the Office of Motion Pictures is conducted should be carefully read and strictly followed.

(1) Requests should reach us sooner. - An outstanding difficulty is that many requests for films do not reach this office far enough in advance of the date when the films are desired. Experience has shown that at least 10 days should be allowed for transportation of films from Washington, D.C. to San Francisco, and at least four days from Washington, D. C., to the Middle West. Shipments from Washington, D. C., to other points are based on this calculation.

(2) Reservations are made in the order of receipt of requests. - There is a large demand for use of Department films coming from colleges, conventions, and other classes of users, as well as from officials and employees of the State and Federal governments. Unless other conditions enter into the case, reservations for the use of films are made in the order of the receipt of requests. It is understood, of course, that should a request for films be received from an extension worker and a private individual at the same time, the extension worker is given preference; but if the request from the private individual precedes the request from the extension worker and a reservation has been made, the reservation should not be changed. In cases where a certain film is in large demand among extension workers and where the film is designed primarily for extension use, copies of the film are not sent to private individuals but are held to meet the probable requests from extension workers. While it is desired that the films reach as many people as possible, it is recognized that a small specialized audience may be better than a large general one.

(3) First and second choices should be given. - Requests for films should indicate a first and second choice so that the second choice may be substituted in case the first is not available. Should neither the first nor second choices be available efforts are made to substitute a film relating as nearly as possible to the subject desired. It is therefore well to specify in sufficient detail the subjects to be discussed at the meeting where the films are to be exhibited.

(4) Periods of use should be given. - Periods during which films are to be used should be given in all requests as the Office of Motion Pictures will not make indefinite reservations. It might be well to include also a second choice of loan period. If films are not available during the first period, it may be possible to reserve them for use during the second period.

(5) Requests for extension of time should be made in advance of expiration of loan period. - If an extension of time on films is desired, the request should be made as far in advance as possible so that the request may reach the Office of Motion Pictures before the films in question are reserved for other users. In any event, request should be made far enough in advance so that the approval or disapproval of such time extension will reach the agent before the expiration of his loan period.

(6) Films must be returned promptly. - In order that other borrowers may not be deprived of the use of films reserved for them, it is essential that all films be returned to Washington in strict accordance with instructions given in the various cases. Failure to observe this rule may cause the withdrawal of the privilege of borrowing films.

(7) Requests may be made direct to the Office of Motion Pictures, U.S. Department of Agriculture, Washington, D.C.

(8) Schedules of exhibitions should be included. - All requests for loans of two weeks or more should be accompanied by a schedule of proposed exhibitions, or other definite information showing the use planned for the films.

(9) User must pay transportation charges. - Beginning July 1, 1924, applicants for the use of films will be required to pay transportation charges on the shipment to them as well as on their return to Washington. Shipments will be made from Washington by express collect. To insure prompt delivery, the applicant should instruct this office as to how he can be reached by express. This is especially important in cases in which express address differs from postoffice address. Return shipments may be made either by prepaid express or parcels post.

Note (9) The Office of Blister Rust Control will pay transportation charges of films to and from Washington to its own employees, or from one employee to another in the field.

F W Perkins

In Charge Motion Pictures.

## HOW TO PURCHASE FILMS FROM THE U.S. DEPARTMENT OF AGRICULTURE.

The procedure in purchasing the film should be as follows: Place your order direct with the Claremont Laboratories Inc., 15 W. 44th Street, New York City. State the kind of film desired - standard or narrow width, slow burning or inflammable. The standard width, slow burning film will cost about $74 for the two reels, the inflammable $50 and the narrow width $45 to $50. Reduced rates can be obtained if more than one copy is ordered.

At the same time, write to Mr. F.W. Perkins, Office of Motion Pictures, U.S.D.A. requesting permission to purchase the film and stating the following:

I (or we) agree that payment for the print(s) called for above will be made without unusual delay to the commercial laboratory manufacturing prints from your negatives; and that the following conditions will be observed:

1. That no change will be made in the subject matter of the film (or films) without explicit approval obtained from your office.

2. That credit to the United States Department of Agriculture will be retained in the film (or films).

3. That no commercial advertising matter will be inserted in or added to the film(or films).

Mr. Perkins in turn will authorize the Claremont Laboratories Inc. to sell you prints of the film.

E.C. Filler.

## GROSSULARIA ECHINELLA, A NEWLY DESCRIBED GOOSEBERRY FROM FLORIDA - SUSCEPTIBLE TO THE WHITE PINE BLISTER RUST.

Much interest has been recently shown over the discovery of a new wild American gooseberry, Grossularia echinella, in Florida. Note of this discovery was given in the Blister Rust News for September 15, 1924.

Grossularia echinella, as a result of recent inoculations made during January in the Pathological Greenhouses, Washington, D.C., on young plants secured from Prof. Coville, has been found to be susceptible to the White Pine Blister Rust, Cronartium ribicola, and also to the Piñon Blister Rust, C. occidentale. Light and moderate infections were obtained with both species of rusts. These infections were obtained at a time of the year unfavorable for infection as regards to temperature. The indications are that heavier infections will be obtained in the greenhouse at a later date.

This newly described gooseberry is closely related to three other American gooseberries: G. curvata of the southeastern United States; G. missouriensis of the middle and upper Mississippi Valley region; and G. nivea, of the plains of eastern Washington and Oregon, western Idaho, and northern Nevada. As in the case of the G. echinella, G. curvata and G. missouriensis it is moderately susceptible to the White Pine and Piñon Blister Rusts.

G. G. Hahn - Jr. Pathologist.

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## RHODE ISLAND WOOD USING SURVEY.

Survey of Rhode Island for use, value, and production of white pine (and other woods) was started in Rhode Island by Mr. O.C. Anderson about February 1.

The survey is being carried on cooperatively between the U.S. Dept. of Agriculture and Rhode Island State Board of Agriculture in order to reach men in the wood-using industries who have not been reached before in our blister rust educational work.

## QUESTIONS AND ANSWERS

Q. What is a good all-round book on tree diseases, written in popular language, and where can it be secured?

A. The Manual of Tree Diseases by W. Howard Rankin, 398 pages, 70 illustrations, published in 1918, is the best compilation on this subject. It may be secured from the publishers, The MacMillan Co., New York, at $3.25 per copy, or through the American Forestry Association at some reduction if you are a member.

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Q. How many species of Ribes (currants and gooseberries) are growing wild in the north eastern states (New England and New York)? What are their common and scientific names?

A. Currants -

Ribes americanum (floridum syn.) - - - Eastern wild black currant.
* Ribes aureum and odoratum - - - - - - Yellow flowering currant.
Ribes glandulosum (prostratum syn.) - Skunk currant.
Ribes lacustre - - - - Prickly-stemmed currant.
* Ribes nigrum - - - - - European or English Black Currant
Ribes triste - - - - - Wild Red Currant
* Ribes vulgare - - - - Cultivated Red Currant.

Gooseberries -

Ribes cynosbati - - - - Prickly-berried gooseberry
* Ribes grossularia - - - Cultivated gooseberry
Ribes hirtella - - - - Smooth gooseberry
Ribes rotundifolia - - Eastern wild gooseberry

* Escaped from cultivation.

# P E R S O N A L

## S.H. FOGG GOES TO FARM BUREAU.

News has just been received through Mr. Amadon, that Mr. S.H. Fogg, Agent in charge of work in Warren County, New York, has been appointed manager of the Warren County Farm Bureau to take effect January 15. He succeeds Mr. K.D. Scott who takes a similar position in Chenango County on February 1. This is the third of the New York agents who have left Blister Rust Control work to step into Farm Bureau work; Mr. Eason and Mr. Wigsten having preceded Mr. Fogg.

While we are very sorry to see Mr. Fogg leave the Office, we are glad that his training has been such that his value has also become apparent to the Farm Bureau organization. Time is well spent when one is able to hold his position and at the same time qualify for a larger place. This is frequently done by our men and it is gratifying to know that much valuable knowledge and experience can be gained by agents on Blister Rust Control work.

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Mr. W. Stuart Moir, a former employee of this office, and lately with the Laurentide Company in Quebec is now associated with the Fairchild Aerial Surveys with address Box 611, St. Petersburg, Fla.

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Mr. L. M. Hodgkins who was recently reported sick with the grippe, has recovered and is again back on the job.

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Messrs Endersbee and Fivaz have a temporary assignment to the Washington Office, where they are assisting Mr. G. B. Posey.

# PUBLICATIONS.

## Blister Rust

Buller, A.H. Reginald. Researches on Fungi. Vol. III 1924. Under the heading "The dispersal of the spores by the wind". There are numerous references to the white pine blister rust, on pages 559, 561, 565, 566. Illustration on p. 541.

Elliott, F.A. White Pine Blister Rust. In Fourteenth Annual Report of State Forester of Oregon for year ending December 31, 1924. P. 44-45.

Since the discovery of this disease in the west, private, state and federal officials have formulated a ten-year program designed to accomplish its control in all white pine areas. The major projects of this program consist of delaying the rapid spread of the disease by eradication of cultivated black currants, quarantine enforcement, and the development of local control practices suitable to western forest conditions.

The Oregon state board of forestry, together with the Oregon state board of horticulture and the Oregon agricultural college, is cooperating with the bureau of plant industry, United States Department of Agriculture, in carrying out the items of this approved program. Definite assistance has been rendered to the portion of this program pertaining to Oregon by rangers and fire wardens. This assistance has taken the form of constant searching for the disease, gathering of information concerning the host plants of the disease, and assisting in the eradication of cultivated black currants wherever possible.

Taylor, W.A. White Pine Blister Rust. In Annual Report of Chief of Bureau of Plant Industry, U.S. Department of Agriculture for year ending June 30, 1924. P. 31,32.
This is a very complete summary of the work in the East and in the West.

## White Pines

Pulling, Albert V.S. Small Rodents and Northeastern Conifers. Journal of Forestry 22: 7 : 813-814, Nov. 1924.

Mr. Pulling observes that squirrels frequently cut off 100% of the cones of white pine, and a small percent of cones from other conifers. Where there is a heavy beech-nut crop, or an abundance of other seeds, there is a decrease in the squirrels attention to pine cones.

"Observations in 1916 on the Lake Tarleton Club property, near Pike, N.H. showed that there was no reproduction from big seed pines on any years except good seed years, yet the pines produced some seed each year. By particularly watching individual trees, I noted that squirrels cut off every cone, days and even weeks before they would normally open."

MAINE PUBLICATIONS ON WHITE PINE BLISTER RUST.

Anon. The White Pine Blister Rust. What It Is - Where It Grows - How It Spreads - What You Should Do About It. State of Maine in Cooperation With U.S. Department of Agriculture. 4 pages illustrated. Sept. 1919.

White Pine Blister Rust. Chapter 178. Public Laws of Maine 1917 An Act Providing for the Control of the White Pine Blister Rust and Other Fungus and Insect Pests. Quarantine on Currants and Gooseberry Bushes and White Pine Trees - Page 96.
In "The Forest Manual -1922, Maine Forest Service Pages 92-96
Also " " " 1924 " " " " 95-99
In Forest Protection and Conservation in Maine 1919 Pages 121-122. 1920.

Briscoe, J.M. White Pine Blister Rust. White Pine or Currants? Practical Husbandry of Maine V. 7, No. 1, Pages 637-638, Oct. 1916.

Forest Planting and The White Pine Blister Rust. University of Maine Extension Bulletin 110, P. 1-4. January 1917.

Forest Planting. In Practical Husbandry of Maine, V. 7, No. 6, Pages 713-715, March 1917. Mention of blister rust on page 715.

"Condensed Report on White Pine Blister Rust Work in Maine." In White Pine Blister Rust, published by The Committee on the Suppression of the Pine Blister Rust in North America, Jan. 1918, Pages 3 and 4.

White Pine Blister Rust. In Forest Protection and Conservation in Maine 1917, Pages 169 to 185 (1918)

White Pine Blister Rust in Maine in 1918. Dept. of State Lands and Forestry, Maine 1918. Bul. 2, Pages 56-72 (1919)

White Pine Blister Rust.
Report of the Control Work in 1917 - Pages 37-47
Report of the Control Work in 1918 " 72-86
Report of the Control Work in 1919 " 116-132
Report of the Control Work in 1920 " 159-175 - In Report of Forest Commissioner of Maine 1920. (12th and 13th Reports combined)

White Pine Blister Rust, in Forest Protection and Conservation in Maine 1919. Pages 95-120. 1920.

Forest Planting In Maine, Bul. 131, of Extension Service. Maine College of Agriculture, March 1921.
Mention of blister rust on page 8 in connection with planting white pine.

[illegible]

Briscoe, J. M. The White Pine Blister Rust, Maine Naturalist 1, 75-78 Oct. 1921.

Dana, S. T. Forestry Factor in Our Farming. Maine Farmer, Augusta, Maine, March 9, 1922. No. 10.
Mentions blister rust as threatening the continued production of white pine as a commercial tree.

Detwiler, S.B. Status of White Pine Blister Rust Control in 1918 in Maine, Page 2, Bulletin 2, Amer. Plant Pest Committee 1918.

White Pine Blister Rust Control in 1919.
Summary By States and Regions - Maine, Page 6. Bul. 4, American Plant Pest Committee, 1919.

Frost, W.O. White Pine Blister Rust. Federal Agent, W.O. Frost Tells Us What It Is and How It Can Be Conquered. Maine Farmer, March 16, 1922. No. 11.

How to Control Pine Blister. Maine Farmer, March 30, 1922. No. 13.

McCubbin, W.A. and Posey, G.B. Development of Blister Rust Aecidia on White Pine After They Had Been Cut Down. Phytopathology Vol. 7, No. 5, P. 391-392. C 17
This was based on field observations made at Kittery Point, Maine and Cookstown, Ontario.

Martin, J. F., Gravatt, G.F., and Posey, G.B.
Treatment of Ornamental White Pines Infected With Blister Rust. U.S. Dept. Agriculture, Circular 177, Aug. 1921.
This circular is the result of an experimental study begun at Kittery Point, Maine, in July 1917 and carried on there until 1920.

Posey, G. B. White Pine Blister Rust in Maine. In Eleventh Report Forest Commissioner of Maine for 1916, Pages 138-151,1917.

Posey, G. B., Gravatt, G.F., and Colley, R.H., Uredinia of Cronartium ribicola on Ribes Stems. Science, n.s., V. 46, No. 1187, pages 314-315, 28S17.

Posey, G.B. and Ford, E.R. Survey of Blister Rust Infection on Pines at Kittery Point, Maine, and The Effect of Ribes Eradication in Controlling the Disease. Jour. Agri. Research 28: 12 Pages 1253-1258 June 21, 1924.

Rhoads, A. S. Studies on the Rate of Growth and Behaviour of the Blister Rust on White Pine in 1918. Phytopathology Vol. 10, No. 12, Pages 513-527. Dec. 1920. The field studies upon which this paper was based were conducted at Kittery Point, the location of probably the oldest infection on pines in this Country.

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Practical Husbandry of Maine V. 7, No. 1, Pgs. 638-639.

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Plant Industry
Washington, D. C.

# THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control,
and the Cooperating States.

Vol. 9, No. 3. WESTERN NUMBER March 15, 1925.

## FOREWORD

Previous numbers of the Blister Rust News have contained notes relative to the western blister rust control campaign. This month's News is devoted entirely to a summary of the progress of the western work. Western blister rust workers are interested in the eastern work because much that is being done contains suggestions of value to the West. Likewise, eastern blister rust workers are interested in the work in the West not only because it is a blister rust control activity but also because the stability of timber production in the western forests is essential to the industrial progress of the nation.

Blister rust control work in the Northeastern States has proceeded steadily according to the program laid down in 1922. Before that time the work dealt chiefly with developing and demonstrating reliable control methods. Over a million acres of land was cleared of currant and gooseberry bushes (Ribes) in 1924. An extensive territory yet remains where the pine must be protected as soon as possible. However, the pine owners are deeply interested and the extent to which they are applying control makes it certain that blister rust in the future will not cause decreased production of white pine in the Northeastern States, as was feared at the beginning of our work. In fact, the pine owners are showing increased

interest in planting, thinning and care of white pine as a result of the blister rust, because the control work has made them more fully realize the commercial value and possibilities of white pine. In view of the growing interest of land owners in white pine as a crop, we may look for gradually increased production of this species in the East.

The forest conditions in the West are very different from those in the East. However, the basic facts relative to blister rust control appear to be the same. The two chief things we have to accomplish in the West are to prevent the rapid spread of the disease by eradicating cultivated black currants, and to develop the most efficient methods of eradicating wild currants and gooseberries from the white pine forests. Preliminary results are encouraging.

An article in the February number of Scribner's Magazine presents the view that the world is approaching an "insect age" and that man's great battle in the future will be with plant and animal pests. Tree destroying diseases, such as chestnut blight and blister rust, and forest insects such as the destructive bark beetles, have made it plain that foresters must concern themselves with methods of preventing or controlling damage by pests as well as forest fire. Let us hope that plant quarantine enforcement will prevent any further invasion of our forests by pests from abroad, and that through better forest practice we may deal effectively with the insects and diseases now taking such heavy toll of our forest resources.

S. B. Detwiler,

Senior Pathologist.

## WHITE PINE BLISTER RUST CONTROL IN THE WEST.

At the fifth meeting of the Western White Pine Blister Rust Conference held December last, in Seattle, it was again apparent that all of the agencies making up membership of the Conference were fully alive to the need for vigorous prosecution of work looking to control of the disease.

A large part of our white and sugar pine is in Federal ownership; a very considerable amount is owned by States and the remainder is in private ownership. This distribution of ownership knits closely together all of the various agencies engaged in forest work of any nature.

To insure systematic effort, the Executive Committee of the Conference, two years ago, adopted a ten-year program in which was outlined the general plan to be followed by the cooperating agencies in combatting the rust in the West. This program met with the general approval of the Federal Authorities and the membership of the Conference. So far there has been no reason materially to change this program, which is being carried forward.

It provides for participation by all agencies, federal, state, and private, gives relative emphasis to investigative and actual control measures and if carried to a successful conclusion, should see the situation well in hand at the end of the period covered.

In all of the work so far carried forward, responsibility

for its prosecution has fallen very largely on the Office of Blister Rust Control. This will doubtless continue to be the case. Our Conference through its committees and otherwise, has, however, kept very closely in touch with activities of the different agencies. Western states are taking added interest and while few direct appropriations have so far been secured, the equivalent in labor and facilities is in most cases being cheerfully furnished.

It is only through the best kind of cooperation that there is hope of being successful in this fight. So far such cooperation has been forthcoming and it is one of the principal aims of the Western White Pine Blister Rust Conference to insure continuance of the feeling of mutual confidence which has so far marked the activities of all agencies engaged in control work.

C.S. Chapman, Executive Secretary,
White Pine Blister Rust Conference.

THE WESTERN BLISTER RUST PROGRAM.

In this, the first western edition of the "Blister Rust News", those of us who are actively engaged in western blister rust work have endeavored to explain what we are doing, and why and how we are doing it. The very process of putting these things down on paper has been of inestimable value to us. Our western work has been so varied in scope and has covered such an extended geographical field of operation that it is well that we have paused, for a moment, to consider our results in the past and our objectives in the future.

For present purposes western blister rust work can be considered as beginning with the discovery of the disease at Vancouver, B. C., in the fall of 1921. The remainder of that year and all of the 1922 season were devoted to scouting to determine the limits of infection, and to the inception of the cultivated black currant eradication and investigational programs.

The season of 1923 saw an important southeastward thrust of the disease from the central and coastal region of British Columbia into the Okanogan region of Washington, and into the vicinity of Nelson, B. C. During this season the investigational work showed even more clearly the important part played by the cultivated black currant in spreading the disease over the West. Work on the eradication of these plants was continued on as extensive a scale as possible, in cooperation with the several western states. The small local control experiment of 1922 was developed into a more extensive project in 1923, by the eradication of Ribes on 1700 acres of white pine land on the Priest River Experiment Station, near Priest River, Idaho. Reconnaissance work was also developed during this year, and paved the way for the larger local control experiment in 1924.

The season of 1924 constituted a respite in the spread of blister rust in the West. Due to dry weather conditions prevailing over the Pacific Northwest, little or no spread of the rust was noted toward the western white and sugar pine stands. During this year cultivated black currant eradication was practically completed in regions contiguous to the commercial stands of western white pine in Montana, Idaho and Washington. Experimental local control resulted in the eradication of Ribes from nearly 8000 acres of white pine land on the Kaniksu National Forest, Idaho.

With this brief review of the most important developments in the past, we can now look forward to see where our western program is leading and what its accomplishments should be.

Blister rust can be expected to appear in northern Idaho at any time within the next few years. Its spread through southeastern British Columbia should be more rapid than its rate of progress south of the boundary line, due to the large number of cultivated black currants in the former region. The entrance of the disease into northern Idaho will probably result in a considerable impetus to local control. Large areas of land in northern Idaho either bear merchantable white pine at present or represent potential stands of incalculable future value. These lands must be protected from blister rust if one of the major industries of north Idaho is to endure.

The white pine type of north Idaho constitutes a region approximately 2500 to 5000 feet in elevation above sea level, extremely rough in topography, and much of it difficult of access. Supplies must often be moved to local control camps by pack horses, and in some cases, lateral trails built to the necessary camp sites. Wild currants and gooseberries vary from practically none to as many as 500 bushes per acre; in general the

older age-classes of timber have fewer per acre than the younger. Each year more of this area is being put under forest management, and as forestry operations and fire protection are developed, the area becomes more readily accessible due to the building of roads and trails for such work.

In general, it can be said that successful local control work in the West is as dependent upon organization and development of transport facilities, and the economical transportation of men and supplies, as upon the technical phases of the work.

During the coming summer, as provided in the ten-year program, the first small local control experiment will be conducted in the northern part of the sugar pine area of southern Oregon. At the same time, the local control experiments in northern Idaho will be continued on a larger scale than in 1924. While these local control problems are being solved, the spread of the rust will be delayed as much as possible by rapidly completing the campaign to eradicate the cultivated black currant from the western states, and by quarantine enforcement.

No discussion, however brief, of the future of western blister rust work would be complete without mention of the ten-year program. This program, developed by the interested private, state, and Federal agencies, is the guide to keep us in the right direction. Minor changes may occasionally be necessary, but such changes will be made without influencing the final purpose so admirably expressed in the ten-year program - the control of blister rust in the West.

S. N. Wyckoff,

Associate Pathologist.

BLISTER RUST WORK IN MONTANA.

In Montana west of the continental divide all cultivated black currants have been located and more than 90% of the plantings have been voluntarily destroyed. Efforts will be made to secure the destruction of remaining plantings and it is confidently expected that the owners will cooperate to this end during the year.

All commercial white pine (P. monticola) is located in four counties of western Montana and according to the latest estimate the figures in board feet for each county are as follows: Lincoln County, 646,917,000 board feet, Flathead County, 303,981,000 board feet, Sanders County, 126,301,000 board feet, Mineral County 55,951,000 board feet. It is indeed encouraging to report that there is but one known black currant planting still present in this territory. Black currant eradication has also been conducted east of the continental divide and during the coming spring and summer it is planned to cover eighteen counties, or approximately as much as was covered in the two previous years. This is possible because of the gradual falling off of black currant plantings and the ease of operating in the less mountainous type of country.

Contact will be established with the forest protective associations in northwestern Montana with a view to familiarizing the field force with the different species of wild Ribes and to aid them in identifying the blister rust should it appear in territory under their patrol.

American Forest Week will be observed in Montana during the period April 27 to May 3. An article on blister rust will be included in the program. The public and timber owners are being interested in the perpetuation of the white pine forests through black currant eradication

work, school campaigns, county fair exhibits, moving pictures and educational articles issued through the press. A very common question is, "Has the blister rust reached Montana?" When the disease does reach the State, as it eventually must do, I believe public sentiment will give effective support in overcoming it.

C.H. Johnson,

Assistant Pathologist.

USE OF THE WESTERN BLISTER RUST FILM.

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In May, 1924, 5 copies of the blister rust film "Blister Rust - A Menace to Western Timber", were issued to the 5 state leaders in the West. This film was made in the West, and shows western timber scenes, logging operations, blister rust infection areas, and blister rust work. From the time of issue until the last of December, 1924, these films were shown 53 times, to more than 12000 spectators. The state leaders report them as of great value in explaining their work to the public, and in securing black currant eradication.

BLACK CURRANT ERADICATION ACTIVITIES IN IDAHO

Soon after white pine blister rust was found in the West in 1921, the question of a suitable agency to guide and correlate the control work in Idaho arose. The final upshot of this matter was the appointment of an executive committee composed of the Hon. M.A. Means, State Commissioner of Agriculture; Mr. W.D. Humiston, Assistant General Manager, Potlatch Lumber Company; and Dr. Henry Schmitz, Professor of Forest Products, School of Forestry, University of Idaho. This committee, advised and assisted by Departmental officials from the Office of Blister Rust Control, meets as the necessity arises, to discuss details and plans for white pine blister rust control work in the State of Idaho. This arrangement has worked out to the apparent satisfaction of all concerned and has closely knit together the various blister rust control activities of the cooperating agencies.

In 1922 the Idaho State Legislature passed a law declaring the cultivated black currant a nuisance and appropriated $5,000 for blister rust control work. Since 1922 the black currant eradication program has been carried on under the provisions of this law. During the past two years the eradication work has been carried on in northern and central Idaho and to date 595 plantings, totaling 3,841 bushes have been destroyed.

Plans for the coming year call for scouting for the disease and a recheck for cultivated black currant plantings in Clearwater, Latah, Benewah, Shoshone, and Kootenai Counties. At the same time the black currant eradication program will be completed in south Idaho commencing in the western portion and working east. It is expected that work in

all counties west of and including Cassia, Minidoka, and Butte will be completed by the end of the summer.

One of the rather novel innovations in cooperative blister rust control work in Idaho is the assistance in scouting for the disease rendered by the different timber protective associations. The field personnel of these associations, in so far as their other duties permit, not only scout for the disease but also keep on the lookout for cultivated black currants, and when found, report them to the proper agency. The employees of these associations spend most of their time actually in the timber and this type of cooperation, if continued as undoubtedly it will be, will be extremely valuable, after blister rust gets into the state, in locating new centers of infection and determining the general spread of the disease.

The blister rust work done by Commissioner Means and Mr. Humiston deserves a word of appreciation. It is largely due to their efforts and interest that Idaho has been able to make a good start in coping with the blister rust situation. Both have given freely of their time and energy to assist in this important work and as one who has had something to do with the work in a general way I wish to take this opportunity to express my appreciation of their assistance and cooperation.

H. Schmitz,
Collaborator.

Note: Dr. Henry Schmitz is very modest. Idaho has so many good blister rust workers that he overlooks himself. No agency is more willing and effective than the University of Idaho, especially the School of Forestry, and Professor Schmitz in particular.

G.B.P.

BLACK CURRANT ERADICATION IN WASHINGTON

Blister Rust was found at a few points in the coast region of Washington in the fall of 1921. Scouting at that time showed that the disease apparently was not established generally on white pine but occurred chiefly on the cultivated black currant. As a result of this situation it was decided that the most effective way to retard the spread of the disease was to generally eradicate the cultivated black currant in the coast region of Washington.

As soon as the desirability of this step had been decided upon the Washington State Department of Agriculture issued an order effective March 1, 1922 instructing "all Horticultural Inspectors - - - to condemn and destroy any black currants found growing in the counties mentioned". This order included all of the counties west of the Cascade Mountains in the State.

Acting under this order inspectors of the State of Washington removed and destroyed most of the cultivated black currants in the coast region during the summer of 1922.

At the end of the season of 1922 it was decided that all cultivated black currants in the State of Washington should be destroyed. As a result, the State Department of Agriculture issued quarantine order number 13, effective September 15, 1922 requiring all Horticultural Inspectors to condemn and destroy any black currants found growing in any part of the State.

The eradication work has been, in consequence of this order, extended during the summer of 1923 and 1924. As a result, these plants have been removed from all counties in the State except in the central

dry belt. It is planned that this area shall be covered during the summer of 1925, completing the State. Adams, Benton, Chelan, Douglas, Franklin, Grant, Kittitas, Lincoln, Walla Walla, Yakima and part of Spokane Counties are still to be done.

From the number of black currant plantings as well as from the number of plants that have been eradicated it is evident that the coast region is much better adapted to the growing of this plant. In the coast region of Washington, 5,435 plantings containing 81,107 plants have been eradicated, while east of the mountains only 493 plantings totaling 3,382 plants have been eradicated in 9 counties. Since the ten counties which are still to be done lie in that region of the state which is least adapted to the growing of cultivated black currants it is probable that not over a few hundred additional plantings remain to be destroyed.

A summary of the work done to date shows that 5,928 plantings, containing 84,489 plants have thus far been destroyed. Another season should see the completion of the primary phase of this work in the State of Washington.

C.R. Stillinger,
Associate Pathologist.

## BLISTER RUST WORK IN OREGON.

If you have never heard of Oregon there are a few things you should know about it. Facts like these are worth pondering. Oregon has more standing merchantable timber than any other state in the Union. It has 19% of the uncut timber in the United States. Its closest rival is California, with 13%. Forty-three thousand persons are engaged in the production or sale of forest products; 65% of Oregon's industrial payroll is expended by the lumber interests. Fair sized trees here are 6 to 8 feet in diameter; the big ones - are too big for a truthful man to tell about. Suffice it to say that trees of the saw-log size in Texas and New England, if used at all, are shipped to California and used for bean-poles.

To be sure, not all of Oregon's timber is white pine. Sugar pine ranks as the most valuable commercial species in southern Oregon, but western white pine is not so well known. In fact, native Oregonians must sometimes be convinced that there is any western white pine in the state. However, back in the Cascades, out of reach for the present of the hungry teeth of the sawmill, lies a belt of western white pine which must become important in a few decades. Isolated stands of western white pine are scattered through western Oregon and in the extreme northeastern portion. As this species comes in strong after logging and single burnings, an ever increasing amount of it may be expected in the future if blister rust does not prevent.

Oregon is not yet on the Blister Rust map. In 1922 it seemed almost certain that the disease would be found here, but by the cooperation of the state and hard licks on the part of scouts, about 33,000 black currant bushes have since been removed and our temporary safety assured.

While blister rust has not been found in Oregon, the state has been very active in its blister rust work. Prominent in the blister rust conference notes will be found the names of Chas. Park, President of the Oregon State Board of Horticulture, and H.P. Barss, Pathologist of the Oregon Agricultural College. These men not only have been active in the Western Blister Rust Conference but have been directly concerned in shaping control policies in Oregon and in the ten-year program. Equally important has been the cooperation of the State Board of Forestry, with F.A. Elliott as State Forester, and the public schools, with J.A. Churchill as State Superintendent.

As the major part of our Oregon program has been the eradication of the cultivated black currant, our activities have largely been with this in mind. The school children were taught blister rust from publications provided by the Office of Blister Rust Control and asked to locate cultivated black currants. While the great value of this work was educational, enough black currant locations were obtained to justify the expense.

The first work done in the state was by crews of blister rust scouts who located cultivated black currants and looked for the disease. About 1000 black currant bushes were destroyed in the fall of 1922. The winter of 1922-1923, the legislature out-lawed the cultivated black currant; the next season active eradication was begun. Letters were written to black currant owners, and crews located and destroyed the bushes. The fact that about 18,000 bushes were voluntarily destroyed by owners gives an idea of the cooperation by the people of the state.

The eradication of all black currants is the first and immediate objective of blister rust work in Oregon. When that is completed we can settle down to the second big job - local protection of Oregon's western

white and sugar pine. The first step in this program will be experimental work to determine suitable ways and means. The work done in north Idaho will be of great assistance. But in Oregon we shall encounter other species of Ribes, different forest types, and changed working conditions. The first of the wild Ribes will be pulled during the summer of 1925, when a small local control experiment will be carried on in the sugar pine stands of southern Oregon. This will be in the nature of a "feeler" to find out what we are up against. Six months hence we will know more of the nature of our Oregon local control problem than we do now.

L. N. Goodding,

Assistant Pathologist.

Note: Goodding is the state leader for Oregon, and a good one at that. No one could doubt that he is 100% Oregonian after this. Numerous little Oregonians are Goodding's also.

G.B.P.

Oregon leads the nation in quantity of standing timber. She has 393,558 million board feet which is approximately one-fifth of the entire stand of the United States.

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Within the boundaries of the State of Idaho there are over 20 million acres of National Forest land. This is the greatest amount carried by any one state and is slightly more than one-eighth of the total area of our National Forests.

BLISTER RUST CONTROL WORK IN CALIFORNIA.

Active work in the control of the white pine rust took definite form July 23, 1924, when the State Department of Agriculture and the California State Board of Forestry approved a cooperative agreement with the Bureau of Plant Industry, U.S.D.A.

Following this agreement, general scouting and eradication of cultivated black currants was started in northern California on August 15, 1924. The usual method of eradication was carried on. As there is no law at present requiring the removal of these bushes, the scouts had to rely upon the good will of the owners. The field season closed October 15, but one man was retained to continue the work in the more accessible portions of several counties throughout the winter.

The following table gives the results of the work from August 15, 1924 to February 1, 1925:

| County | Eradicated | | Not Eradicated | | Total | |
|---|---|---|---|---|---|---|
| | Plantings | Plants | Plantings | Plants | Plantings | Plants |
| Lassen | 9 | 45 | -- | -- | 9 | 45 |
| Modoc | 5 | 16 | -- | -- | 5 | 16 |
| Shasta | 6 | 14 | -- | -- | 6 | 14 |
| Siskiyou | 5 | 38 | -- | -- | 5 | 38 |
| Trinity | 2 | 8 | -- | -- | 2 | 8 |
| Del Norte | 4 | 13 | -- | -- | 4 | 13 |
| #Humboldt | 238 | 1735 | 5 | 33 | 243 | 1768 |
| #Mendocino | 5 | 17 | -- | -- | 5 | 17 |
| Total | 274 | 1886 | *5 | *33 | 279 | 1919 |

#Not yet completed.
*Still pending- further efforts are being made to secure their removal.

In order to promote a better feeling and perhaps leave a more favorable impression of our work, "Letters of Appreciation" were sent out to all cooperating black currant owners, who consented to the removal of their bushes. These were not sent out without the desired effect, for it

was afterwards learned that in one instance, such a letter practically saved the replanting of a part of twelve of the largest bushes found during the season.

The importance of the nurseries as a source of supply of black currants is of course obvious. These were inspected for blister rust hosts in conjunction with the eradication work. In order to find the status of all nurseries in the State, which number approximately 1100, letters were sent to each, asking them to discontinue the growing of black currants and remove any now in their possession. A very favorable response has thus far been received. Twelve nurseries have reported the removal of their black currants, totaling 1035 bushes. Indications point to a small percentage of the nurseries possessing these bushes.

A bill requiring the removal and non-propagation of the European or cultivated black currant, (Ribes nigrum) in California has been introduced into the legislature. The outlook at present for its passage seems very favorable. Such laws are in force in Idaho and Oregon. It seems desirable to have such a statute. It makes it possible to remove all plantings of black currants. In several instances, owners of these bushes have withheld their removal pending a law compelling them to do so. In most cases, however, best results can be obtained by depending on the owners to cooperate in the work by the voluntary removal of their bushes.

G.A. Root,
Assistant Pathologist.

Note: Root is the state leader for California. New England once knew him well, but nevermore. He has a native (daughter or son)

G.B.P.

INSTANCES OF RETURNS FROM WHITE PINE SECOND GROWTH IN NEW ENGLAND.

In 1896, Mr. Will Bishop, near Lisbon, New Hampshire, bought one hundred acres of small white pine for $400 and another ninety acres for $630. The ninety acres had been cut over five years before he bought it, but he was able to cut enough pine from the piece during the first three winters to pay for it. In 1913, the timber from these ninety acres plus that from ten of the one hundred acre piece was sold for $8300. The sale value of the bare land, if entirely cleared of pine, he placed at practically nothing.

In 1919, Mr. Frank J. Parker, near Littleton, New Hampshire, realized $600 from one acre of white pine. No accurate information as to the past history of this stand could be obtained except that the preceding cut had been made fifty to sixty years previously, with the second growth following it unaided. Mr. Parker told of the purchase of a tract (land and timber) in the vicinity in 1918 by Mr. Albert Moulton for $20,000. The area of the tract was between two hundred and three hundred acres. This timber was being cut in 1920 and was expected to yield around three million feet B.M. The net profit on this would be not less than $20 per M. giving a total profit on the timber of $40,000 above the purchase price and leaving him still in possession of the land.

Mr. Augustus Pratt of North Middleboro, Massachusetts, in 1895 was getting $200 per acre for pine he had started by sowing forty-two years before. At present stumpages prices, that pine would have been worth $400 per acre.

Dr. Woodward of Durham, New Hampshire, told of a case at Sanbornton, where pine had just been sold at a figure that represented a net annual

income of $4.00 per acre for the past fifty years. He also stated that good returns could be made on box board stumpage at $8.00 per M. on a fifty-year rotation. At present, box board stumpage brings from $10 to $12 per M.

Present stumpage prices in eastern New York and New England range from $10 to $20 per M. depending upon quality and logging costs. Logging and milling costs combined, average from $12 to $15 per M.

Box board lumber sells for about $35 per M. Logs of good quality bring as high as $30 per M at mills in New Hampshire.

Near Chestertown, New York, the price of logs at the river bank is $22.50 and logs are taken as low as a six-inch top on a thirteen foot log.

Fully stocked stands on average sites in New Hampshire should yield $160 per acre at the age of thirty-five years. At forty years the yield would rise to $235 per acre and at fifty years should be over $500 per acre.

L. J. Young,

Professor of Forestry

September 1920. University of Michigan.

A tract of 9 1/2 acres in York County, Maine, cut in 1920, is reported by Mr. Austin Cary to have yielded over $7,000 in white pine stumpage. The pine averaged 70 years of age, and sold for $16.50 per M. on the stump.

PROFITS FROM SECOND GROWTH TIMBER.

That timber can be grown on the cut-over lands of New England with a profit was given a striking demonstration recently when an owner of a tract of second growth pine in Maine was compelled to cut his timber because of a serious fire that had gained some headway in the tract. The damage caused by the fire was so great that it was necessary to cut the timber and from twenty acres of second growth pine, some of it forty years old, there has been sawed and placed in pile more than 500,000 feet of lumber. As this lumber will return an average of at least $10 a thousand feet, the owner will receive $5,000 in returns from a tract of twenty acres, for which he paid $1,900 in 1918. The owner says that he had hoped to do better than this with this tract by thinning it out and holding the bulk of the stand for further growth, but because of the fire he was compelled to cut the timber at this time. This tract of twenty acres was formerly a part of a small farm of forty-six acres. Three years before this tract was bought by the present owner, the other twenty-six acres of old fields pretty well run out, with no buildings, was sold for $150. The owner of this 20-acre tract, who is an enthusiastic believer in the practicability of growing timber on a commercially profitable basis, remarked that this is a commentary on the relative value of farm land and timber in New England.

American Lumberman

January 17, 1925.

## RESULTS OF THREE YEARS OF QUARANTINE INSPECTION IN THE WEST.

One of the primary tasks in combatting the white pine blister rust has been to prevent the distribution of the disease from infected to uninfected regions, by any of the agencies of man. It is by this means that the disease, before its importance was realized, was carried to the United States some twenty-five years ago and to British Columbia about fifteen years ago.

To control the dissemination of pests a Federal Plant Quarantine Act was passed by Congress in 1912. Under this Act, the Secretary of Agriculture quarantines areas that are infested with dangerous plant pests and prescribes rules and regulations controlling the movement of plant material from such areas. These are enforced by the Federal Horticultural Board.

Quarantines were established from 1912 to 1917 forbidding the importation of currants, gooseberries, and white pines from Europe, Asia, Canada, and Newfoundland, into the United States. In 1917 another quarantine was laid to prohibit the movement of these plants from any of the states east of the Mississippi Valley to any western states. In 1920, active steps were taken to inspect nursery shipments that were moving westward across this line to insure the strict observance of this quarantine.

When Blister Rust was discovered in British Columbia and Washington in the fall of 1921 there arose the necessity for a new quarantine to control the movement of host plants of the disease from the infected areas. On March 15, 1922, a federal quarantine was promulgated forbidding the movement of currants, gooseberries or white pine out of that portion of Wash-

ington west of the Cascade Mountains. Further information on the distribution of the rust necessitated the extension of this quarantine on March 2, 1923, to the whole State of Washington. The western states which have white pine forests have also passed quarantines coinciding with the federal quarantines.

In the spring of 1922, after the passage of the federal quarantine pertaining to Washington, steps were immediately taken to inspect nursery stock shipments at transfer points in order to make the quarantine effective. For the past three years this work has been continued each fall and spring during the season for shipping nursery stock. During this three-year period 476 violations of blister rust quarantines have been detected, 413 of which were currant or gooseberry shipments and 63 pine shipments. Of these violations, 44% were found in 1922, 30% in 1923 and 26% in 1924.

Nurserymen committed 51% of these violations in 1922, 29% in 1923, and 30% in 1924.

In considering these violations from the standpoint of the method of shipment, parcel post always has given the greatest number of violations. The percentage of violations by parcel post was 49% in 1922, 63% in 1923, and 67% in 1924. The fact that such a high percentage of violations is found in parcel post may be due to the fact that this means of transportation is becoming more extensively used by shippers of nursery stock. Further, this method of transportation is probably best suited for shipping small packages of nursery stock such as might contain white pine seedlings and currant and gooseberry plants.

During the last two years there have not been repetitions of

violations by nurserymen. Violations from this source at present seem to be due to the fact that a nurseryman is either just starting business or is just beginning to extend his territory of distribution. It is expected that violations by nurserymen will form a very small percentage of those found in the future. About three-fourths of the violations during the last two years have been by individuals. We cannot expect ever to get each and every one of the general public familiar with the quarantines. Our hope to control this type of violation is by vigorous educational work and close cooperation with the transporting agencies.

C.R. Stillinger,
Associate Pathologist.

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The State of Washington produces more lumber than any other state. Its average annual output is 6,500 million board feet, which is about one-fifth of the total production of the nation.

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In 1923, California used 4,289 million board feet of lumber. This is the greatest annual consumption ever recorded for any state and is practically one-eighth of the total amount used by the United States for that year.

## Investigative Work
## in the
## Pacific Northwest

The fact that the epidemic of white pine blister rust in the Pacific Northwest has resulted, as far as can be determined, from a single introduction of the disease at Vancouver, B. C. in 1910, on an importation of eastern white pines from France has made possible rather exact deductions as to the method of spread.

The epidemic has attained its greatest intensity north of Vancouver. This is due to the moisture laden winds of spring and summer being northerly in direction, while the dry winds of the same period blow toward the south. Consequently the natural distribution of the rust to the south and in a lesser degree to the east has been and will be much slower than to the north where it has already spread to the limits of the range of western white pine.

Circumstantial evidence so strong has accumulated that for practical control purposes it must be considered that aeciospores from western white pine can be wind-blown upwards of one hundred miles and infect Ribes. The appearance of the rust during the 1923 season on Ribes at numerous places at least 30 miles from the nearest 5-needle pines and 80 miles or more from the nearest known infected pines, but particularly its occurrence at Namu and Bella Bella on the British Columbia coast 80 and 110 miles north of the limits of the range of western white pine, together with its non-appearance at most of these

places in 1924, especially the two last named, compel acceptance of this idea.

But fortunately, to the eastward, that is from the coast region toward the commercially valuable western white pine stands of northern Idaho, this long distance spread has been practically confined to the cultivated black currant (Ribes nigrum). That is, initial inoculation has occurred on this host and it was not until aeciospores had been produced on nearby pines that the native species were infected.

The cultivated black currant is by far the most susceptible Ribes in this region. It remains highly susceptible throughout the growing season, while other species develop resistance with increasing age of the leaves. The rust establishes and heavily intensifies itself on this species under unfavorable climatic conditions which almost preclude infection of the native Ribes. Furthermore, its capacity to damage pines is far higher than any other species and finally, as before mentioned, it is the one Ribes so far responsible for the long distance spread of the disease from the coast region to the interior. Study of the cultivated black currant in relation to blister rust has led to the conclusion that the most efficient means to delay the spread of the disease is to remove this currant from the 5-needle pine region of the West.

A study of the actual damage to the western white pine where the epidemic is at its height, indicates that this species is liable to very severe injury and, if anything, is even more susceptible than eastern white pine. In certain areas trees commonly die before infection ever

reaches the stem, due to the killing of all their branches by innumerable cankers.

Further studies are under way on climatic factors, methods of distribution, the relative susceptibility of various species of pine, rate of damage to western white pine, distance of damage to pine from Ribes, and the relative susceptibility of Ribes. It is on this last point, bearing as it does primarily on methods and costs of local control, that efforts are now being most strongly concentrated.

J.S. Boyce,
Pathologist, Office of
Forest Pathology.

## THE RELATION OF BLISTER RUST TO NATIONAL FOREST MANAGEMENT in the WESTERN WHITE PINE REGION

The National Forests of District 1 contain about 1,590,000 acres in the white pine type, of which 280,000 acres are in Montana and the balance in Idaho. Much of this is young growth, but, according to the best estimates available, there is a little less than 5 billion feet of merchantable-sized white pine on the National Forests. A good deal of it is inaccessible, but if the progress of the blister rust forced the cutting of mature timber in order to salvage it, there is little doubt but that 90 per cent of the white pine in the District could be sold and marketed within the next 20 years.

There is no doubt that white pine is always going to be a very valuable species, and that the present spread in value between white pine and other associated species will be maintained or perhaps increased. The whole logging industry of most of North Idaho is built around the white pine. In most white pine stands the mixed species, white fir, hemlock, Douglas fir, larch and cedar, have a negative value, and are often left on the ground by the lumber companies. Without white pine the lumber industry would largely cease for some years. The average mill-run price for white pine for the past 5 years has been $46 per M.; for Douglas fir and larch, $23; and for white fir $23.60. The white pine type in Idaho is particularly adapted to growing white pine, and it would be nothing short of a calamity to have to replace it with species of much less value.

The Forest Service has pretty well accepted the conclusion that if the blister rust advances - as there is every reason to believe it will - in a very few years it will be impossible to grow white pine and currant bushes on the same quarter section, and we will either have to get rid of the cur-

rant bushes or quit growing white pine. From an economic standpoint it does not appear that it would be good business to replace white pine with other species, in order to save the cost of eradicating Ribes.

The first point of attack in Ribes eradication should undoubtedly be the immature stands. They are not only subject to a more rapid damage by blister rust than mature timber, but the disease would have a long time to spread before such stands reach maturity, and if the young stands are once badly infected it seems probable that little or no white pine will ever reach maturity.

It does not seem advisable from the present viewpoint to do much in the way of Ribes eradication in mature white pine stands. On the basis of such data as have been presented, it appears probably that after infection reaches a mature stand it will take some years before any of the trees are killed, and it seems likely that most of the merchantable white pine can be salvaged even if attacked by the blister rust. After the timber is cut and the slash disposed of, would then be the proper time to rid the area of Ribes, in order to protect the new crop from infection. If the disease becomes generally distributed in Idaho, it can be foreseen that Ribes eradication will be as much a part of the process of handling a timber sale as slash disposal.

Just how far in advance of the actual spread of blister rust the Government should undertake Ribes eradication on the National Forests is considerable of a question. There is always the possibility, through a combination of favorable wind direction and the successful elimination of cultivated black currants, that the spread of the disease into Idaho might be delayed for many years. It would not be desirable to spend vast sums of money for Ribes eradication to avoid a danger due 20 or 30 years from now,

since much of the work would have to be done over again. On the other hand, too great conservatism in pushing the attack might result in our being overwhelmed with so a rapid a spread of the disease that it would be impossible to cover sufficient acreage with Ribes crews to keep ahead of the disease. A middle ground will doubtless prove the best course.

I should like to see the Ribes work progress steadily through the immature white pine stands in the north tier of Forests in Idaho until they are completed, say, within the next ten years. Beyond that, would, of course, depend on the progress of the disease, recognizing that any plan might be upset by a sudden appearance of blister rust at any point considerably south of the boundary.

Elers Koch,
Assistant District Forester,
Missoula, Montana.

CHEMICAL ERADICATION OF RIBES

Experiments are being conducted to determine the practicability of using chemicals to eradicate Ribes in places where hand-pulling is difficult and costly.

Out of some 50 different chemicals, having various toxic properties, which have been investigated, few show promise of having the desired effect. Most promising among these appear to be some of the waste products from the oil refining process. It is hoped that further experimentation will prove some of these substances to be real "killers", and that practical methods of application can be devised.

W.F.Huppke,
Field Assistant.

CONTROL RECONNAISSANCE SUMMER OF 1924.

To attempt Ribes eradication in the woods of north Idaho without a preliminary survey would be like building a house without a plan. Control reconnaissance provides the plan for Ribes eradication, and gives the basic information necessary before eradication can be outlined and carried out.

As the working plan of a proposed building gives drawings of floor plans and elevations, together with estimates of materials needed and cost of labor, so reconnaissance supplies to the eradication force a picture of the country, and estimates, based on actual counts, of the critical factors involved in working methods and costs.

The preliminary information necessary to Ribes eradication falls under the following general heads:

1. A base map of the area. If contour maps are already available, this much is already done. If not, the area must be mapped.

2. Definite information concerning the amount, age, and exact location of the white pine on the area. This tells the story of the value of white pine involved, and gives one factor necessary in deciding if Ribes eradication is justified.

3. The kinds and number per acre of Ribes on the area, and where the Ribes are numerous and where relatively few or wanting. This determination of Ribes data by land types will be necessary in determining costs, and also will greatly aid the eradication forces in planning their work.

4. All other factors influencing cost and methods of eradication. These include such things as height and density of brush, location of rough, steep, rocky areas, windfall, and density of reproduction.

To determine such matters, control reconnaissance was conducted on 42,000 acres of white pine type in north Idaho, during the summer of 1924. 22,000 acres

of this land is owned by the Federal government, and 20,000 by the State of Idaho. The cost of this work on the State land was borne jointly by the State and the Office of Blister Rust Control.

Space will not permit a detailed analysis of the findings of this work. From the standpoint of white pine, 8 age-classes of timber were found to be present. The following table gives the acreages in these age-classes, according to ownership.

| Ownership | Number of Acres in Timber Age-Classes, Years. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0-10 | 11-20 | 21-40 | 41-60 | 61-80 | 81-100 | 100-200 | 200+ | Total |
| Federal | 129 | 3717 | 5410 | 2855 | 53 | 350 | 7716 | 1710 | 21940 |
| State of Idaho | 538 | 4784 | 1267 | 690 | 465 | -- | 11432 | 1156 | 20332 |
| Total area | 667 | 8501 | 6677 | 3545 | 518 | 350 | 19148 | 2866 | 42272 |

Ribes lacustre, the prickly currant, and R. viscosissimum, the sticky currant, were the principal Ribes found. A small amount of R. acerifolium, the maple-leaved currant was found at higher altitudes.

This work showed that the maximum number of Ribes occurred in the 61-80 and 81-100 year age-classes of timber. Previous to these ages, Ribes generally increased in number; in older timber they decreased. R. lacustre, showed itself to be more persistent than R. viscosissimum, the 200+ age-class of timber still having an average of 8 bushes per acre, principally along streams. R. viscosissimum was entirely shaded out when the timber had reached 80 years of age.

These findings tend to bear out our previous ideas that Ribes eradication will generally be more expensive in the younger age-classes of timber, both because of difficulty of working and because of greater numbers of Ribes.

H. N. Putnam,
Assistant Pathologist.

A THIRTY YEAR BURN

I have never travelled extensively. London, Delhi, Queenstown are all the more romantic to me because I never stepped outside of the West. And yet, after whacking my way through an old burn I am convinced that I have experienced many sensations which the most intrepid globe trotters have not enjoyed. Let others glory in dashing to the poles! I do not envy the renown of those who risk their lives to get a glimpse of a despicable globe from the roof of the world. I rest satisfied with having been on reconnaissance through a thirty-year burn.

A mile or two of diagonal escalading through brush and windfall is worth a trip from Cairo to the Cape.

When I fondly embraced willow twigs, and walked over treacherous masses of sticky-laurel, I never had time to be philosophical. If I had been in a nice quiet shady place, I might have considered how the loving Ceanothus and the mournful willow protected struggling seedlings from the snow's oppressive weight and the sun's parching rays. Such thoughts cannot hatch when one is almost drowning in sweat, and straining ones eyes to catch the shy gooseberry bushes and still more timid white pine.

Euclid, being a man of leisure, defines a straight line as the shortest distance between two points; the hot and encumbered reconnaissance-man would define it as a flying leap between two bushes. This definition may be modified now and then by vaulting over a log, or falling headlong. An occasional log, about waist-high gives one the pleasant alternatives of crawling through the brush under it or going "over the top".

A half-ton grizzly, beating a hasty retreat, makes a deafening noise.

A pair of reconnaissance men in a thirty-year jungle far outdo him. The occasional falling of a person, half-subdued and half-tamed imprecations, the shouting of reports, the crushing of brush, is enough to make the most intrepid Bruin beat a retreat. Big game hunters of Africa describe the trampling of elephants in the jungle as being much like thunder. A little more exactly like the noise produced by blister rusters!

Some life - one who survives is a surveyor, hiker, diver, aereonaut and an alpinist.

After such narration, it is only proper to tell you, in true Paul Bunyan style, that I ate a whole steer that evening, and -

Heigh ho, the holly!

This life is most jolly.

Rene d'Urbal,
Collaborator, Summer, 1924.

EXPERIMENTAL LOCAL CONTROL IN NORTH IDAHO.

The experimental eradication of wild Ribes from the forests of the western white pine area was continued in 1924 in northern Idaho immediately adjoining the Canadian line. The area selected was the Valley of Upper Priest River, on the Kaniksu National Forest. From Spokane, Washington it is situated 130 miles to the northeastward, about 60 miles by train, 25 miles by stage, 30 miles by boat, and from 12 to 18 miles on foot.

Camp equipment was bought from the Forest Service, and is identical with that used by the Service. Food supplies were also bought from the Forest Service, at the Central Purchase Depot in Spokane, trucked to Coolin, Idaho, and thence hauled by barge or smaller boats to our warehouse at the head of Upper Priest Lake. The season's supplies were stored in this building, a pack train of from 8 to 11 horses distributing the necessary supplies to the several camps.

The past season marked the largest experiment in Ribes eradication yet undertaken in the West. To start the season, our first problem was training a large number of inexperienced men. Most of them did not know the first essential of this type of field work. Of the 95 men employed on the several related field projects, 3 had had some experience in Ribes eradication, and 4 others had done blister rust work of other character.

All of the men, whether they were to be on Ribes eradication or not, were given an initial period of training as a member of an eradication crew.

Although some eradication had been done in Idaho on a smaller scale during the two preceding years, the work was carried on practically as brought out from the eastern states. During these preceding years, no actual eradication had been done in dense stands of reproduction.

A large proportion of the area eradicated in 1924 supports reproduction

stands. This age-class proved the most difficult problem of the season. Although from one to several crews worked upon this type throughout the entire field season, a thoroughly satisfactory method of eradicating in such areas is yet to be found. Many changes were tried, and during the latter part of the season, eradication was much cheaper than under the same conditions earlier in the season.

But two species of Ribes were found on the area covered during the past year, R. lacustre and R. viscossissimum. Of the total number of Ribes, R. lacustre was 73.5%, and R. viscossissimum 26.5%.

The eastern crew organization of 5 crewmen and a foreman is being held as the best unit. Experience may show improvements upon this unit. Although, in all eastern work, at least 1 trench pick or some similar tool is part of the regular crew equipment, this was discarded in our work here. The slopes are so steep, and the footing frequently so precarious, that every man needs at least two free hands and two good feet. The list of injuries during the past season is good evidence. Six men had injuries which became cases of the U. S. Compensation Commission. Of the six, 5 were injuries resulting from a fall due to poor footing. Besides, there were many additional minor sprains, cuts, and bruises which were directly due to falls.

The foreman's job of keeping (1) the crew in proper formation, (2) the proper spacing between men, and (3) a check on the efficiency of the crew, is not a simple task in relatively easy areas. It becomes a very difficult problem under the varying conditions which may prevail. The very steep slopes, the numerous cliffs and ledges, the heavy windfalls and the reproduction thickets -- each presents its own problem of crew management.

The scout serves very much the same purpose in western work as in the eastern organization, but his methods of attack are considerably modified by

the very different conditions which prevail here.

Our scouts have the added factor of the vertical (altitudinal) distribution of white pine, besides its horizontal (geographic) distribution. In fact, the western blister rust scout's work is mainly a study of the altitudinal distribution of white pine.

Our camps were spaced at intervals of from 1 1/2 to 4 miles apart along the main valley. Each camp organization included from 15 to 35 men. Side camps of from 6 to 15 men were operated only as necessary.

The area which was eradicated, 7880 acres, includes about 8 miles of the Upper Priest River Valley, with an average width of 1 1/2 miles. Within this 8 mile length, the main valley ranged in elevation from about 3500 feet down to 2700 feet. The valley slopes rise from 2000 to 4000 feet above the valley bottom, but the white pine type occupies only the basal 2000 to 2500 feet of these slopes. Briefly, the scene of our eradication was largely confined to the lower 2/3 of the valley sides.

The upper limits of eradication mark the practical application of that line above which white pine does not constitute 15 per cent of the timber stand. Since the upper portion of the white pine zone is a transition toward subalpine conditions, the best field interpretation of this line requires good judgment, practical knowledge of forestry, and a great deal of experience.

Our experience during the past season has shown us many of the difficulties which confront our progress. It has taught us some lessons which would not have been learned otherwise. All of these lessons were valuable. If we profit by each lesson, and do not repeat, our march will be forward, not backward.

W. A. Rockie,
Assistant Pathologist.

## TIMBER PROTECTIVE ASSOCIATIONS OF NORTHERN IDAHO ARE ACTIVE IN BLISTER RUST WORK

The timber protective associations of north Idaho have from the beginning taken an active part in the fight against blister rust. During the summers all of their employees who are constantly watching over four and one-quarter million acres of white pine timber land are constantly on the watch for blister rust. Due to active field contact with these men by educational blister rust men, these guardians of the pine land are becoming more and more effective scouts. That they are active in the work is indicated by the number of possible infection areas reported by them.

During the season of 1924 a two-man blister rust crew did educational and reconnaissance work with each association. One man was provided by this Office and one by the association. Effective next July, each association will have one man engaged during the entire year upon blister rust work pertaining to the association. He will also have a temporary assistant during the field season. The timber owners of northern Idaho plan to be ready when blister rust appears in their territory.

The general plan of blister rust work in the associations during the summer is three fold: educational, scouting for the disease, and reconnaissance studies. The winter months will be devoted to summarizing the summers work and compiling all known information regarding the timber, Ribes, and eradication conditions on the association lands.

C. R. Stillinger,
Associate Pathologist.

## THE WESTERN ERADICATION CAMP
## and
## HOW TO GET THERE

* * *

During the past field season Ribes eradication was carried on in the extreme northeast corner of Idaho, (on the Kaniksu National Forest). Three eradication camps were established of about twenty men each. Several of the more experienced men were sent ahead to establish the camps and the other men followed a few days later. To get into this region is something of a problem in itself.

You leave the railroad at Priest River, a booming little lumber town, and travel by auto truck or stage twenty-five miles to the southern shore of Priest Lake. Here, tucked away in the mountains, you find a very modest little summer resort called Coolin, which presents your last chance to order a meal. You travel the length of the lake, about twenty-eight miles, by boat and land at the "Jumping Off" place. If this trip was started early in the morning, it is now getting dusk in the mountains so you wait until morning before 'jumping'. Coffee, bacon and biscuits are soon prepared and disposed of so you find your bedroll and proceed to locate yourself for the night. After prospecting around in the dark for some soft ground or vainly trying to collect some boughs you just spread your blankets and flop. In a couple of hours you wake up with several or many pains scattered promiscuously along your back, each one registering the location of a stone, a willow root or perhaps one for your pocket knife. Others of the party are awake too, so you exchange more or less profane and pertinent observations on the desirability of making different arrangements and finally get up, fix the fire and revive your good nature. You then locate the offending rocks and roots, empty your pockets and go back to sleep. Your luck will probably be better this time

and you sleep until dawn. Breakfast consists of hotcakes and coffee and you find room for a surprising amount.

While your hotcakes are settling you watch the packer load his string or eight horses with about 1500 lbs. of supplies and start up the trail. You then load yourself down with your personal equipment and proceed to make the last leg of the journey on foot. Twelve miles up the trail you find Camp #1 established on the banks of Upper Priest River. A 16 x 16 army squad tent is being used as a cook house and the savory smells of ham, coffee, baked beans, and apple sauce hold your attention. You notice the dining room - a big fly 28 x 16 has been put up in front of the cook tent and under it are two long narrow tables made from hemlock poles and cedar shake. The only sawed lumber in camp is from the supply boxes and this has been commandeered by the cook for his work table.

Memories of last night prompt you to action; you look around to see what the other fellows have done and are surprised at their comfortable quarters. You pick out a partner, combine bed-rolls and ideas and proceed to build yourselves a wikiup and bunk. Your shelter is made from cedar bark and branches, the good old earth serves as a bed spring; and you make a mattress of hemlock boughs, twigs and moss.

After supper, a big bonfire is built in the camp center and all hands gather around. The evening is spent telling stories, smoking and singing, and you begin to enjoy the atmosphere of the Fraternity of the Great Out-of-Doors.

P. E. Melis,
Field Assistant.

## WHERE RIBES WERE MISSED

During the course of the checking work on the Upper Priest River local control area, a careful analysis was made of the site conditions of 362 Ribes bushes missed by the eradication crews. These constituted the total of the bushes found by the checkers on 72 acres. The following table shows the site conditions under which these missed bushes were growing.

MISSED RIBES
Site Conditions Where Found

| Site | No. of Missed Ribes | % of Total Missed Ribes |
|---|---|---|
| Raised ground adjoining mature trees | 69 | 19.1 |
| Rock outcrop association | 71 | 19.6 |
| Damp Slope and Alder bottoms | 61 | 16.9 |
| Upturns | 56 | 15.5 |
| Windfalls (on, under, or behind) | 29 | 8.0 |
| Dry draws | 25 | 7.0 |
| On decayed stumps and logs | 21 | 5.7 |
| Mulch of decayed branches | 15 | 4.1 |
| In dense brush | 7 | 1.9 |
| On creek banks | 3 | 0.8 |
| Covered by pulled Ribes | 2 | 0.6 |
| Miscellaneous | 3 | 0.8 |
| Total | 362 | 100.0 |

This means - watch out for rocky places, the bases of mature trees, swampy places and upturned stumps (all favorite haunts of Ribes lacustre), in particular. Several others will also bear watching. Contrary to expectation, dense brush did not seem to be so serious a factor.

ECOLOGICAL WORK IN THE SUMMER OF 1924.

Work in this season was directed toward securing data on the "time" element in relation to increasing shade as a factor in natural elimination of Ribes from white pine stands. This work was confined to the Kaniksu National Forest in northwestern Idaho. The statistical reconstruction method was adopted. This was carried out by selecting areas in different timber age-classes, from 5 to 150 years old. On these "burns" complete census of all plants was taken on a "random strip" of a fixed zigzag course twenty-four chains in length and one half rod wide. The purpose of this peculiar course of strip is elimination of the personal element. It is believed to be a success and might well be adopted as a new ecological method of taking field data for any comparative purpose. Two species of Ribes were encountered, R. lacustre and R. viscosissimum. So different are they in their ecological reaction that we cannot now speak of the ecology of Ribes but must be specific. Ten such strips were run besides a bit of additional work for comparison. The above conclusion is the only one which is not considered as tentative owing to need of more studies of areas. Burns studied ranged from five years age to mature pure white pine. The following are hinted:

1. R. lacustre enters burns early. As early as the second year.
2. R. viscosissimum enters later.
3. R. lacustre reaches the maximum number of plants about the eighth or tenth year.
4. R. viscosissimum increases in number more slowly.
5. R. lacustre reaches the maximum feet of live stem about the tenth year and the maximum leafage about the 15th year.

6. Even tentative statements about R. viscosissimum cannot be made concerning maxima with present limited data.

7. Diminution of the number of plants of R. lacustre begins very shortly after the maximum number per acre is reached and continues steadily until about the fortieth year. No Ribes were found on the "strip" in mature white pine though common experience shows that it occurs in open stands and in openings in dense stands.

8. A peculiarity of R. viscosissimum is its tendency in dense reproduction to grow a single very long vine-like stem sometimes climbing high on limbs of the coniferous plants with only a tuft of three or four leaves at the end of the stem.

E. Large,
Field Assistant.

TENTH ANNUAL BLISTER RUST CONTROL CONFERENCE.

The Tenth Annual Blister Rust Control Conference was held in Washington, D.C., February 18 to 23, 1925.

The conference opened with an address of welcome by Mr. S.B. Detwiler, in charge of the Office of Blister Rust Control, Washington, D.C. Dr. J.F. Martin of the same office discussed the program to be covered during the conference. On the second day, Dr. Taylor, Chief of the Bureau of Plant Industry, outlined the work of the Bureau and Mr. H.E. Allanson, Assistant to the Chief, discussed the conduct of the Bureau's business. Other valuable and interesting talks on such subjects as: Research activities, blister rust scientific investigations, extension work, motion pictures, etc., were given during the conference.

The following list of men actively engaged in blister rust control were present and helped make the conference a genuine success - Messrs. A.H. Amadon, O.C. Anderson, H.P. Avery, J.L. Bedwell, F.M. Callward, J.F. Cannon, J.M. Corliss, S.B. Detwiler, W.J. Endersbee, E.C. Filler, W.O. Filley, A.E. Fivaz, W.O. Frost, L.W. Hodgkins, J.F. Martin, L.E. Newman, C.C. Perry, R.G. Pierce, G.B. Posey, L.H. Pennington, J.E. Riley, Jr., and H.H. York.

We feel certain that everyone in attendance was benefited by the work of the conference and went away feeling glad that he had come.

Papers delivered at the conference are being gotten together and will be put out as a whole in mimeographed form.

SECRETARY JARDINE URGES OBSERVANCE OF

AMERICAN FOREST WEEK.

President Coolidge has asked the people of the country to observe the week of April 27 to May 3, as American Forest Week.

Secretary of Agriculture Jardine has placed the Department of Agriculture squarely behind the observance of Forest Week. The Secretary emphasized the importance of forestry to the farmer and small land owner declaring that one third of all forest land in the United States was in the form of small woodlots.

"The Department of Agriculture will be represented in the campaign by the Forest Service, the Bureau of Plant Industry and the Biological Survey, these three Bureaus serving on the general Forestry Week Committee along with other organizations." Secretary Jardine continued, "Farmers, especially, should be awake to our country's forestry needs. One-third of all our forest land is in the form of farm woodlots and small holdings. Farmers also are the greatest single class of wood users. These are sufficient reasons why forestry is of prime importance to agricultural interests in all parts of the country.

"The observance of American Forest Week in every American community will help put the United States on the road to what this nation greatly needs -- a real national policy of forestry."

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

# CONTENTS - VOL. 9, No. 4.

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Plant Industry
Washington, D. C.

# THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control,
and the Cooperating States.

NEW HAMPSHIRE NUMBER Vol. 9 - No. 4 April 15, 1925.

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## Editorial

Hello Agents:

A Happy New Year and the most successful eradication season yet, to you all. The first part of my salutation sounds a bit belated, but this is the only opportunity I've had in recent times to broadcast an editorial welcome to the "bunch". This person who travels around under the non de plume of "Ribee Bill" generally gets in his oar first, and consequently, whatever sentiments we associate editors get "off our chest" are invariably destined to take a back seat. You know publicity sharks claim the first and last thing that people read is what they remember best,- not what comes in between. It is quite evident that our friend who has been traveling incognito so long is well aware of this fact, for since time immemorial he has corralled the beginning and the end of our family periodical, and I don't mind telling you, Mr. Agent,- confidentially, of course,- that I never took kindly to being sandwiched in between his scintillating witticisms.

When the north wind is howling without and the mercury is fluctuating between zero and forty below, I feel partial to my little corner in the office. However, just as soon as "Beechen buds begin to swell, and woods the blue-bird's warble know", I find myself fairly itching for a glimpse of the "wide, open spaces", and a breath of the budding Spring. 'Tis then that I begin to wonder

how all of our little friends of the genus Ribes and Grossularia have survived the rigors of our northern clime, and I commence to speculate as to the date when they will again don their verdant raiment, and how soon the "ribe hounds" will be able to ferret them out from among their woodland neighbors. The resurrection of such thoughts in my mind marks the beginning of the eradication season.

In the northeastern states control methods have been so well refined that they may now be said to be on a fairly permanent basis. It is not necessary, therefore, to devote much time at this season to the ways and means of Ribes eradication. The more vital question is how may we best conduct our control work so that the confidence of our cooperators will be retained, and new ones secured. It is just as essential to prove to the public that control work can be conducted efficiently as it is to convince pine owners that blister rust is a serious menace. We must also remember that other pests are likely to crop up, and in order to successfully combat them campaigns similar to our own will have to be waged. The sentiment which we create for, or against, public work will have its effect on future campaigns. The readiness of woodlot owners to adopt the principles of forestry may be influenced by the manner in which blister rust control is pursued.

Owing to the fact that the conduct of cooperative Ribes eradication varies with local conditions in the several states, it is not possible to suggest or lay down any definite set of rules which might be successfully applied everywhere. The New Hampshire plans this season call for far greater educational work to be carried on hand in hand with control measures than ever before. We are going to make a stronger effort to get pine owners as well as the townspeople out to watch the crews at work. The agencies we plan to employ

in order to encourage local inspection are as follows.

First of all, soon after eradication is underway in a community, a circular letter will be sent out to all, calling attention to the fact that control work is being carried on, and inviting the public to come out and become familiar with the manner in which local funds are expended. The name, address and telephone number of the crew foreman will be included in this circular. In order to simplify the addressing of the envelopes containing these letters an inquiry will be instituted in order to determine whether such letters may be directed simply to a post office box number or rural free delivery box number and route. Such a method was employed in Wheat Rust Control work in some of the middle western states. It is also planned to issue a poster drawn up on lines similar to the circular letters and place them in post-offices, stores, railway stations and any other point where the public is in the habit of congregating.

Our summer educational program includes, if possible, a field meeting in every community where eradication measures are applied. Local meetings are invaluable and go a long way towards providing general publicity. Instruction in control practices and blister rust damage will also be given to individuals, preferably during the period in which local control work is in progress. At the same time the agent will stage a blister rust exhibit in a local store or post-office, and instruct the crew foreman to renew the specimens from time to time.

If pine owners and tax payers are convinced that blister rust is serious, and if we can prove to their satisfaction that control work is conducted conscientiously and effectively, the necessary cooperation for protecting pine growth will be forthcoming.

The Blister Rust "bunch" from the Granite State extend their best wishes for a most successful season to their "brothers-in-arms" not only in the northeast, but the far west as well.

L. E. Newman,
State Leader.

AROUND THE STATE WITH THE NEW HAMPSHIRE BLISTER RUST AGENTS

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Even Blister Rust Inspires Poetic Flights

One day last fall Tom King dropped into the State Leader's office, and with a grin on his face announced that he had just unearthed a good one. It appears that King had recently staged a blister rust exhibit at the Hopkinton Agricultural Fair. One day he had occasion to be absent from the booth for a few minutes. On returning he discovered lying in front of the exhibit a small card with the following lines:

"It might have grown to stately height,
And made a tree for timber good;
But now it's dead, you all can see,
And fit for naught but kindling wood."

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All this sentiment was aroused merely from viewing a few small pines infected with the rust. The author probably would have written a whole volume had he or she seen the Waterford, Vermont infection area. After all, Agents, nothing like a good demonstration of damage to make your skeptic sit up and take notice.

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Another interesting bit of information was picked up at this same Fair. I have requested King to tell us about it in his own words.

"One New Hampshire farmer, who had been sold to the protection idea, came up to the blister rust exhibit and started telling about his belief in the seriousness of the disease. He said he had a nice lot of young growing pine near his house. His neighbor also had quite a bit of pine. Incidentally the neighbor had a row of currants and gooseberries in a location favorable for the spread of the disease from these bushes to the farmer's pine. He approached his neighbor and told him of his belief in the danger that existed in White Pine Blister Rust, and that these bushes were likely to infect his pine. The neighbor scoffed at the idea and absolutely refused to destroy his bushes unless he was paid for them. Realizing that he could get no cooperation from this neighbor our farmer friend offered to work for the skeptic long enough to pay for the bushes. The neighbor said he valued the bushes at $13.00, and so the farmer worked with his team of horses one and one-half days, and then pulled up the bushes himself. He said that he felt it was one of the best investments he had ever made in the betterment of his farm.

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## We Still Have The Bug With Us

At the annual meeting last March of one Merrimack County town a lively discussion ensued in connection with an article calling for a blister rust appropriation. The subject was being argued pro and con, when some one suddenly jumped up and exclaimed, "You can't tell me that a bug flies from a bush to a pine and then around the pine and back to the bush again half a dozen times." Editor: This man evidently never heard of trained bugs.

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## In Memoriam Ribes Aureum

Foreman Cullen, while walking along a road on which he had worked the preceding summer passed a residence from the grounds of which he had removed a

cultivated Ribes. At the very spot where the flowering currant formerly grew was a small white cross. He surmised that it might have been put there in memory of the bush destroyed. Inquiries proved his deductions to be well founded.

Following appears a reproduction of the front cover of the Merrimack County Farm Bureau Bulletin for March. This space was secured by T. J. King for the purpose of spreading the blister rust "gospel".

## A SMALL COST NOW

In 1918, as a result of the widespread distribution of White Pine Blister Rust, the N. H. Forestry Department adopted the TOWN CO-OPERATIVE METHOD of handling its control.

### RESULTS (IN NEW HAMPSHIRE)

(1) 1,360,312 acres have been examined.
(2) 16,258,443 wild and cultivated currant and gooseberry bushes have been destroyed.
(3) The cost of eradication has been reduced from 42 to 16 cents per acre.
(4) Work has been completed in 30 towns.
(5) Hundreds of thousands of dollars worth of pine have been protected.

### RESULTS (IN MERRIMACK COUNTY)

(1) 212,379 acres have been examined.
(2) 3,263,550 wild and cultivated currant and gooseberry bushes have been destroyed.
(3) Eradication cost, 18.5 cents per acre.

This SMALL COST per acre protects a VERY VALUABLE ASSET.

## A GREATER LOSS LATER

Blister Rust is spreading rapidly in areas where the currant and gooseberry bushes have never been destroyed.

(1) Six years ago a test area, 40 miles long 1 rod wide, showed 12.5% infection.

(2) Three years ago this same area showed an increase of 66 per cent.
(3) Recent studies in Merrimack County shows 70 per cent increase of Blister Rust infection in six years.
(4) Over 20,000 infected pines have been found in Merrimack County to date.

Similar areas are being constantly discovered.

Similar areas will constantly develop where currant and gooseberry bushes remain unmolested.

Each infected pine represents both a distinct loss in itself and a new center of infection.

Merchantable pine need not worry us.

Maturing Pine can be materially damaged and even destroyed.

Young growing pine, our future crop, HAS NO CHANCE unless the currant and gooseberry bushes are destroyed.

White pine has meant much to our rural citizens and towns.

(1) It has paid mortgages.
(2) It has educated children.
(3) It has produced from 1/4 to 1/2 of the town taxes.

White pine means more to them today than in the past.

Should we not stand A SMALL COST NOW to protect us from A GREAT LOSS LATER?

167 TOWNS and CITIES in New Hampshire have APPROPRIATED FUNDS TO PROTECT THEIR PINES from the FATAL Blister Rust.

PINE OWNERS and OTHER TAX-PAYERS in these towns BELIEVE BLISTER RUST IS SERIOUS and WHITE PINES WORTH PROTECTING.

They voted for an appropriation - WHY DON'T YOU?

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Some of the boys have intimated that Tom Kane preaches the gospel of blister rust in one of the most arctic-like, barren regions of the State. (Indignant denials from Thomas) Be that as it may, we do know that there is a bit of pine in Kane's district and that when it comes to live news the region is not half so barren as some would have us believe. Here's what Tom broadcasted to us a few days ago.

Cooperation From One of Our Largest Lumber Companies.

The Blister Rust and Forestry Field meeting, held at Waterford, Vermont, last summer was the means of interesting and securing the cooperation of the President of one of the largest lumber companies in New Hampshire. At that time, the writer interviewed the gentleman and signed him up to have control

work done on his private holdings during the summer of 1925. Time went by and nothing more was heard from this source until the day previous to Town meeting. Then the Project Leader in this community received a telegram from him stating that the company he represented would cooperate with the town, in the matter of an appropriation, on the same basis that the State Forestry Department cooperates with towns and individuals. The result was that the town did appropriate and the lumber company added twenty-five per cent more.

Now the concern we are referring to has considerable standing timber in this community and the town receives a considerable portion of their revenue from the taxation on their hard and soft woods. Nevertheless the President was so intent on having control work continued in this locality that he put aside the fact that the town owed them some consideration and was willing to have his concern bear some of the expense.

This is the sort of cooperation that is gratifying to the Blister Rust Control Agent. Inasmuch as the lumber company controls large tracts of timber in other adjacent towns we feel that this admirable and worthy motive will be understood by backward communities and next year will find some of these towns falling in line.

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## New Blister Rust Film Well Received.

Large crowds turned out to see our new picture "The Pines" at all the showings in this County. That it was greatly appreciated was evident by the applause it received and the writer heard many favorable comments regarding the setting of this story.

Probably the town of Littleton made the best showing from point of attendance. It must be remembered, however, that a good deal of the picture was

filmed in this town and some of the actors are also inhabitants of Littleton, so there was a bit of the personal touch to their interest.

As the town hall was not large enough to hold the crowd the picture was shown at the local movie house. Mr. John Eames, who owns this theatre, lent every assistance to make the entertainment a success, giving the hall, orchestra and operator service to the people free of charge.

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Mr. J. L. Bedwell of the Western Office of Blister Rust Control has been in our midst for a few days looking over pine infections in Lisbon and Littleton. We visited the Kay lot in Lisbon and found that a great many of the infected trees have been cut down this winter. Many of the Agents will remember this lot as visits were made to it during the time we held sessions in Littleton in 1922.

T. L. Kane

INDIVIDUAL COOPERATION NOT HARMFUL TO TOWN COOPERATION.

It has been argued pro and con that private funds used for control work will tend to lessen interest in town appropriations in the communities where this kind of cooperation has been given. The writer feels that this question is more of a local problem than anything else. In northern Grafton county we have experienced very good results from the use of private funds and although we are not claiming that individual cooperation has been the means of securing town appropriations, nevertheless, it has not tended to hurt it. Last year, in the town of Lisbon three times as much private money was provided as the town appropriated. This year the town increased its appropriation over what was given in 1924. Haverhill, Littleton and Monroe are other examples of towns that have both kinds of cooperation.

We have noted that at all the town meetings individual cooperators have been the first to champion control work and bring about a better understanding and attitude toward the work. In other communities this interest may be lacking but so long as private cooperation in northern Grafton county increases the control work, we are out to secure it.

T. L. Kane.

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All States that are making an effort to secure town appropriations for Blister Rust control will find that considerable assistance may be secured by selecting a good, live individual as a local leader. Fred Baker, in Cheshire County, has a project leader in every town in his district. He has recently sent into the Concord office the following letter.

The Value of a Good Project Leader.

"The gratifying results obtained through the cooperation of a certain project leader in Cheshire County, emphasizes the importance of selecting an influential man as project leader. The project leader in mind has lived in the county part of the year for about four years, but does not claim his residence here. When he came into the county as a summer resident he was entirely ignorant of Blister Rust and its destructive work. After several interviews, during which specimens of Blister Rust were shown and explained, he became an ardent worker. His cooperation at once brought good results, his first step being to secure the cooperation of several non-resident pine owners. Their donations, together with a liberal one of his own, were sufficient to cover the land in the town which had not already been cleared of Ribes.

Having cleaned up the town in which he is a part time resident, he proceeded to assist in educational work in one of the adjoining towns, that had

discontinued eradication work four years ago. As he had spent a great deal of money in this town and employed a goodly number of the townspeople, he had only to let it be known that he was a cooperator in blister rust control and they were immediately converted. Accordingly he personally hired and paid for a hall for a blister rust meeting. At this meeting, which was largely attended, he expressed the wish that the town would appropriate funds at the next town meeting. Blister rust was explained and moving pictures shown and a round table discussion invited, and all personal grudges then and there overcome.

At the town meeting he offered the town $100 together with his assistance in securing private cooperation if they would appropriate funds. Needless to say the town accepted this proposition and appropriated $400.

These instances make one realize that careful consideration should be given the matter of selecting a project leader.

F. J. Baker

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From the district known as Southern Grafton County comes further proof of the value of blister rust demonstration. Geo. Richardson, Jr., the agent from that district writes in part as follows:

"I am more convinced than ever before that Forestry Field Meetings and blister rust demonstrations are of greater value than any other methods for securing public interest. I draw this conclusion from two meetings held last season, one in Hanover, the other in Holderness.

The Hanover meeting, held on the Twombly Lot,-where infection is better than 70 per cent,- was attended by residents from Lebanon as well as Hanover. In 1924 Hanover appropriated $300. and Lebanon $400. for cooperative control work. At the annual meeting of 1925, men formerly opposed to the work spoke

in its favor and told their fellow townspeople of the infection which they had seen in Hanover. Both Hanover and Lebanon appropriated $1,000. each for blister rust control this year.

On June 20th a meeting was held in North Holderness upon the property of a Mr. Pratt, who has been carrying on systematic management of his woodlands for a number of years. While the attendance was very gratifying,- there being present 78 persons-, nearly three-quarters came from towns other than Holderness.

Although the program was largely of a general forestry nature, blister rust was not neglected as the State Leader spoke at considerable length on the subject. Last month at their annual meeting Holderness people voted to appropriate $500 for Blister Rust control. No one voted against the article. It is interesting to note that the men who opposed blister rust the previous year, were the very persons to support the article last March."

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The following was overheard one day on the streets of Lebanon, N. H., by Agent Richardson.

"Our bank fails and the town loses a great deal of its money, but the work of protecting our pine goes on stronger than ever before. This, to my way of thinking, is the way it should be, because we can not afford to lose both our money and pine."

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Tree Identification Needed in the Law Schools.

Lawyer: "I am in favor of Blister Rust appropriations in towns which have white pine, but don't think my town should raise funds for this purpose as we haven't any white pine.

Project Leader: "My town voted $1,000 and we certainly don't begin to

have as much pine as your town.

Lawyer: "I know, but all the pine in our town, or at least most of it, is the five needle pine."

G. F. R.

## Forestry Clubs

"Steve" Boomer writes that Forestry Clubs are becoming quite popular in Carroll County. Lately, four clubs have been organized, the largest have fifteen members. Planting and thinning projects are being carried on. It is expected that at least 8,000 pines will be planted this year by the members.

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## New Hampshire Claims the Largest White Pine

On page eight of the February News we noted that our Vermont colleagues are aspiring to the ownership of New England's largest pine. Agent Boomer takes exception and claims that his county holds the honor. He describes this tree as follows:

"In the town of Ossipee, near what is known as the Freedom Road, stands a white pine 150 feet high and 18 feet in circumference. Local lumbermen claim it will scale 4,000 to 5,000 board feet."

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## "Getting Them Out"

The two chief mediums through which we must reach the pine owner and those interested in white pine blister rust are through the spoken word and the written word. Of the two, we will all agree that the direct appeal of the spoken word is the more effective.

Before a field meeting is held it is customary to have posters printed stating the location and date of the meeting, as well as any special feature that is to be stressed at the meeting; generally a talk by the State Forester

or the State Blister Rust leader on fire prevention or blister rust control. These posters are placed in stores, post offices and other places where people congregate. After that, as many personal calls as possible are made, each person being urged to attend the meeting.

A very small percentage of the people whom we desire to reach ever hear of these meetings in this manner, as some of them do not happen to go to the stores and other places at that time and those who do go are not interested enough to speak of it to the family or often forget all about it when they do reach home. Consequently the message has reached but a few more than have been actually called upon.

Posters are necessary if for no other reason than for acting as a reminder after people already know about the meeting.

One of the most effective means of reaching the local owners in this territory has been through circular letters. Lists of voters and pine owners have been obtained from the Selectmen and to each family on the list a letter has been sent stating that the crew is working in the town and suggesting that it is their duty to go out and see how the Town's money is being spent. The location of the crew is given and the name and address of the foreman. This letter also tells them the date and location of a field meeting which is to be held in the near future and urges them to attend. After that they have no excuse for saying that they did not know that there was going to be a meeting or that the crew was working in their town. Here is where the poster acts as a reminder or can be referred to if someone has lost their letter and forgotten the date or place of the meeting.

As our personal calls are necessarily limited before a meeting we have tried using the telephone for a general call. In one town there were twenty-

three party lines and they included all of the subscribers in that town and several in an adjoining town. About a week before the meeting one of the Selectmen went with the Blister Rust agent to the manager of the telephone company and asked him if he would announce the meeting to all of their subscribers and put it through as an emergency call. The manager agreed to do this for five cents a line and the operator put through the emergency call on each line, giving time enough for all to get to their phones and then announced the object of the meeting and the time and place. The morning before the meeting she again put through the call and reminded them of the meeting. Due to rainy weather no estimate of the effectiveness of this method of "Getting Them Out" could be obtained.

H. W. Robb, Hillsboro Co.

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Blister Rust Specimens Get an Appropriation

K. E. Barraclough, of Rockingham County tells of the part recently played by two blister rust specimens at a New Hampshire town meeting. Here's the story.

"I believe that the thing that helped to secure the appropriation was having present at the entrance of the town hall two large trunk infections. Above these infections we placed one of the new posters just received. 'Blister Rust is Here etc.' One trunk infection was found just one half hour before town meeting. This infection was located on a lot back of the town hall. Probably 150 people were present and I am not enlarging when I say every one passing into the hall stopped and looked at the poster and infection, and nearly 75% asked for explanation before entering the hall. To top off the demonstration I gave a very short talk when the article was read. Due to the confusion of ayes and nays when the vote was taken a hand vote was called for

and the appropriation was won on a final vote, 30 to 7."

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## TREATMENT OF ORNAMENTAL WHITE PINE IN EUROPE INFECTED WITH BLISTER RUST.

A recent post card has been received by Mr. E. C. Filler from Mr. W. F. Hale, now in Europe. Mr. Hale who was engaged in blister rust control work in New Hampshire in 1919 is evidently still interested in our work. He writes:

"At an Experimental Station near Brussels the bark of infected pines is cut away and then treated with a solution of permanganate of potassium. They think it lengthens the life of the pine. Used in parks only."

Editor: Other references of this nature can be found in the blister rust publication U.S.D.A. Bulletin 957.

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## New Hampshire Town Appropriations

Returns from the annual meetings of New Hampshire towns show a total of $31,700 appropriated by 76 communities. It is expected that two cities will shortly make available $500 and $400 and two additional towns $400 apiece.

In Lisbon and Fitzwilliam the local appropriation was increased $100 by two public spirited men. Assuming that the four communities referred to above vote the funds mentioned, the grand total appropriated by towns and cities will be $33,400. This figure is $5,575 less than the aggregate for 1924. So far as can be determined the falling-off is not due to a lessening of interest, but rather on account of unusually large appropriations for highway construction and schools.

L. E. N.

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ERADICATION OF HOST PLANTS TO CHECK PLANT DISEASES IS NO NEW THING.

In Connecticut, 1726, a law, which allowed each town to forbid the cultivation of the barberry bush within its own boundaries, was passed. This same law was renewed in 1779 and a similar one was adopted in Rhode Island 1766 and renewed in 1772. In Massachusetts according to the law of January 13, 1755, every barberry bush had to be eliminated before June 13, 1760. (Freeman and Johnson, page 29).

Translation from the Danish, BERBERISBUSKEN og BERBERISLOVEN by J. Lind, 1915. The Barberry Bush and Its Law. - A full translation is in Manuscript form on 44 pages and is on file in the Section of Barberry Eradication, Office of Cereal Investigation, as well as in the Office of Blister Rust Control, Washington, D. C.

## DAMAGE STUDIES IN NEW YORK.

New York has had a number of plots under observation which are yielding valuable data.

"The work of 1924 was a continuation and enlargement of that of 1923. Many of the damage study plots laid out in 1923 were not on a permanent basis. This past summer as many of these as possible were made permanent.

Three plots laid out in 1923 in Warren County were reworked. Two new plots were laid out in 1924 in Warren County and 1 plot in Essex County.

In the reworked areas data were taken on individual cankers to note progress of disease in future years, with reference to life of individual tree.

On the Horicon plot there is one point of special consideration; namely, that in 1923 12% of stand was dead. In 1924, an increase of 60% in the death of the trees in the plot was noted.

At Kelm Mt. a final check of trees showed 96% of trees infected.

The data obtained may be summarized in the following statements; Of 20,000 trees examined, over 1,000 or 5% are already dead. Over 5,000 are now diseased, or 25%. Outside of one plantation, the study of which was undertaken for other than damage studies, the per cent of infection is 36%.

Trees with cankers endangering their lives within 10 years number about 17%. These are trees with cankers on branches 3 inches or less from boll of tree.

This means that with the 5% already dead from blister rust, 22% or nearly a quarter of the trees, on the lots studied, will be dead in between 5 and 10 years.

There are 3 cankers per infected tree, as an average.

Fifty-seven per cent of the cankers studied were on 1919 wood. It is probable that over 60% of all blister rust in the Adirondacks was of 1919 origin. This was a year of favorable weather conditions for the spread of the disease.

From data obtained on several plots the observation is made that 75% of normal trees are diseased, and only 35% of the suppressed, shaded and blighted trees, are diseased. This shows that the blister rust attacks the normal and healthy trees more readily than the poorer trees."

Extract from 14th Annual Report of the New York Conservation Commission for the year 1924, by C.R. Pettis. p. 185,186.

FORESTRY

Meeting Held at Hampton Falls and South Hampton, N. H.

Two Forestry Meetings were held during the week commencing January 26, in cooperation with the local granges, i.e., at Hampton Falls on Monday evening, January 26, and at South Hampton on Wednesday evening, January 28. At Hampton Falls, K. E. Barraclough, County Blister Rust Agent, talked on Blister Rust Work and the County Agricultural Agent showed two reels of motion pictures on Forestry. At South Hampton, Mr. Barraclough gave an illustrated talk assisted by the County Agricultural Agent. Good interest was shown at both meetings with discussions following the talk. A meeting scheduled at Kensington was canceled by the community on account of the storm. From the Rockingham County Farmer, N. H. March, 1925.

## NOTES FROM PLYMOUTH COUNTY MASSACHUSETTS

During the winter months, the selectmen, of towns to be worked this season, have been called upon to enlist their support and cooperation. In every town to be worked this coming season a hostile attitude exists and a great deal of persuasion has been, and will be, necessary to convince people of the seriousness of white pine blister rust.

I recently called at a farmer's house in Marshfield. I happen to know of about 40 trees dead with blister rust and I also know where the big wild currants are. This made the third time I had failed to find this man home so I began to tell his wife about the disease on their place and I convinced her to the extent that the land will all be worked before I get that way this summer.

This same lady told me that at a grange meeting recently a certain individual was inquiring of the selectmen about their opinion as to setting out currant bushes. These individuals lost no time in telling him to "leave them alone" as blister rust was a very serious thing. I had trouble in getting an interview with this board but I am glad I convinced them.

E. M. Brockway

Blister Rust Control Agent

Plymouth County, Massachusetts.

## GENERAL SUMMARY OF BLISTER RUST WORK IN ROCKINGHAM COUNTY, NEW HAMPSHIRE, FOR THE YEAR 1924.*

"Before it is possible to convince the pine owner that it is necessary to eradicate currant and gooseberry bushes in order to save the pine, it first becomes necessary to show the pine owner that pine is one of his important farm crops. Demonstrations, talks, motion pictures, lantern slides, and written publicity are of little value unless the facts are put into practice by the receivers. Probably because of the factor of supply and demand along with the general publicity given the subject, considerable forestry work has been carried on in the County.

In the fall of 1924, circular letters were sent out to Farm Bureau members in the County asking how general the practice was of removing birches or undesirable growth from among pine stands. From a summary of the circulars returned and from general observations, the practice of cleaning out undesirable growth from pine stands is true in a general way over the County. In the same circular, information was asked in regard to planting. The following information was compiled: A total of 787,600 trees have been planted in the County by 36 men or co-operations in 17 towns, up to November 1, 1923. The data for 1924 has not yet been collected but will probably total a number as great as the year before.

Several towns are investigating the possibility of establishing town forests. One of these towns plans to plant 10,000 pines this spring and is looking to see where they can obtain waste lands and gradually develop them into town forests. Another town owns some 150 acres of good growing pine.

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*Mr. K. E. Barraclough is the efficient agent working in Rockingham County.

Mr. Wadleigh, the State Club Leader, is anxious to develop Boys' Forestry Clubs in Rockingham County. It has been possible to get such clubs under way in the towns of Nottingham, Northwood, and Newington. Each boy carries on an individual project. Planting projects will be carried out in the spring, the age of the boy, and the stand of pine, being carefully considered. Very attractive prizes have been offered in co-operation with the New Hampshire Society for Protection of Forests, such as a scholarship to the Junior Camp and Short Course at the University to one in each Forestry Club.

Numerous woodlot examinations have been made, with advice in regard to thinning, pruning, cutting for reproduction, planting, and marketing, and Blister Rust Protection. Thirteen woodlot demonstrations were held last November with a total attendance of 70 people. Fifteen talks were made on Forestry and Blister Rust with a total attendance of 353.

The main project, the Blister Rust Campaign, was carried through with much greater results this year than last. Last year only 9 towns voted to carry on the project. This year 19 towns in the County voted to fight the Blister Rust disease. During the past year 96 towns and 39 individuals in the state of New Hampshire cooperated in Blister Rust Control; 3,966,454 currant and gooseberry bushes were removed from an area of 319,588 acres, at an average cost of 16.2 cents per acre. In Rockingham County alone 374,322 currant and gooseberry bushes were removed from an area of 56,213 acres, at an average cost of 13.5 cents per acre. During the eradication season in Rockingham County 4 crews, with a total of 28 men were in the field. It is urged that the towns in the County continue this drive. Save the White Pine from the Blister Rust."

Extracts from The Rockingham County Farmer
Exeter, New Hampshire. Vol. VII - No. 21 - Dec. 24, 1924.

## LARGE INFECTED PINE SPECIMENS ATTRACT ATTENTION.

Under date of March 28, Mr. Floyd M. Callward writes: "Last January I went to the Waterford area and cut a section of pine approximately 5 feet long by 7 inches in diameter, with a canker extending nearly its entire length, to use as a display in this Office during the meeting of the last legislature. During the week of February 16, this specimen fruited producing several blisters. It was seen in this condition by many of the legislators who had never seen rust before. They thus carried away a good idea of what to look for in the field this coming spring.

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## IDEAS RIDE THE HUMOROUS ROUTE EFFECTIVELY

Mr. G. H. Collingwood, Extension Forester, wrote to the Editor of the Blister Rust News under date of March 26, 1925.

"In our recent trip into Maryland, I became acquainted with Dr. I. K. Atherton, who is in charge of the hog cholera work in that state. He is working through the Extension Service in a manner similar to the way that the Blister Rust men are carrying forward your project. He has decided that the best vehicle for carrying his information to the public is humor; accordingly he is studying various humorous ways of introducing the subject of hog cholera. I think you will be interested in the press notices which he has put out during the last two months. Perhaps they will carry suggestions for your own work."

One of the press notices follows:

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ANIMAL INDUSTRY
Local Office.

A Vest Pocket Essay
on
Whiskers.

Whiskers, according to all information obtainable, first became the rage in the Garden of Eden, and continued in vogue with the Ancient Order of Cave Men. Much of the popularity of this hirsute appendage was probably due to the fact that safety razors had not been properly advertised in the Stone Journal. There are many varieties of whiskers, and they run all the way from the once popular "throat latch", to that of complete disguise. They do not, however, grow very luxuriantly along Sanitation Boulevard. They are worn for a variety of reasons, young physicians, especially, use them instead of experience. Whiskers, in a measure, are also a sign of age. We often say that a stale joke, a time-worn but untenable theory, etc., is covered with that variety of moss known as whiskers.

In this regard, we do not know of any theory that has accumulated such a collection of hoary whiskers as the time-worn but erroneous belief that there is a cure for hog cholera. Not a month goes by but that we hear of some herd affected with cholera on which a so-called cure for the disease has been tried. These alleged cures comprise everything from some favorite single drug or herb to shotgun prescriptions that include practically everything kept in a well-stocked pharmacy. However, none has ever been tried that has exhibited any curative properties. The one and only agent that can be used with the expectation of any benefit when the disease has made its appearance in a herd or where there has been a possible exposure is anti-hog cholera serum. Delay in using it last year in herds where the disease had appeared cost the farmers of Maryland at least $40,000.

College Park, Md.
February 16, 1925.

I. K. Atherton,
Inspector in Charge
of Hog Cholera Work.

"No left turns on Sanitation Boulevard.
This Road leads you right."

## Massachusetts Notes

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The Massachusetts blister rust control agents met in conference with State Leader Perry on April 3 and 4. Under the guidance of Agent Roop a special trip was made through Essex County with a stop at Manchester, Mass. for lunch.

A study plot on the Crane estate in Ipswich was of special interest in view of the fact that open aecia were found in great abundance even at such an early date. This particular plot is in a plantation of white pine set out in 1913. The pines average about 9 feet in height and most of them show an unusually healthy appearance with very little discoloration of the foliage and an almost complete absence of the characteristic blister rust flags. On a quarter acre plot as studied in December 1923, 74% of the trees were found to be diseased. Infection dates back to 1915 and there was a steady increase until 1918 with a marked increase during 1919 and 1920. The area was cleared of Ribes in August and September of 1923 and it is expected that some very interesting and valuable figures will be obtained from a continued study of this area. To this end the plot was laid out very carefully and each tree numbered with white paint.

A visit was also made to the Proctor and Palmer estates in Topsfield, two historic blister rust "red triangles" in Massachusetts. On the Palmer estate in particular, hundreds of trees are dying so that the condition is quite impressive, just at this time.

Very encouraging reports of the winter's educational work were made by the several agents, and the prospects for another very busy Ribes eradication season are promising.

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Open aecia were reported by Messrs. Roop and Gould on April 1, on a white pine in the town of Essex.

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A blister rust appropriation of $18,000 has been approved by the Governor for this year. This amount represents a cut of $1,500 since the legislative committee felt that claims for reimbursement on account of the removal of cultivated Ribes should be paid from the general appropriation. The argument was that the men needed an incentive for keeping the number of such claims down to a minimum. True, but the fact is that the Agents have always made every effort in this direction. The men in the organization are appreciative, however, of the continued confidence placed in their efforts as indicated by the approval of the request for the same appropriation as in former years. The reduction in the total amount available will make necessary some curtailment in the plans for the Ribes eradication season.

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Agent Doore who has been assisting the State Leader during the winter, in preparing the blister rust field maps, has returned to his district with temporary headquarters in the office of the Franklin County Extension Service, Greenfield. A sufficient amount of Ribes eradication work has been planned ahead to keep the organization on the jump from April 16.

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C. C. Perry.

## CAN WHITE PINE BE PRUNED AT A PROFIT?

Mr. O. M. Pratt of Holderness, New Hampshire, thinks so and practices what he preaches. "Of Mr. Pratt's forest, about one-half is 'pine woods' and one-half hardwoods. He is carrying on his pruning operations in white pine only, because he says it does not pay to prune red pine. He has gone about his forest work in a very systematic and farsighted way, clearing up his pine woods by judicious thinnings which remove suppressed trees and create conditions favorable to the young, thrifty, wood-producing trees to be pruned.

* * * *

Pruning of white pine began about twenty years ago, with the help of F. N. Knapp, who has also been interested in the subject for a number of years. To date, some 200 acres have been pruned, the prunings usually following the clean-up thinnings, and thus are restricted only to trees which will form the final crop. The best time to prune, Mr. Pratt believes, is when a tree is three or four inches in diameter. At this size, pruning does not seriously affect the tree's crown, and in twenty years sufficient clear wood has been added to make a cutting profitable.

The trunks of the trees are pruned to a height of sixteen feet. A short cross-cut saw attached to a pole is used, and with this instrument one man can prune six sixteen-foot logs an hour. Both dead and live limbs are sawed off, the cut being made as close to the bole of the tree as possible. 'Better to remove the bark as far as the live tissue than to leave a stub,' said Mr. Pratt.

That pruning hastens either the height or diameter growth is not claimed, but there is no doubt that it does raise the grade and value of the wood grown by the tree. This was clearly shown at Mr. Pratt's sawmill, where

boards from pruned and unpruned trees were compared. The portions of trees which had been pruned fifteen or twenty years ago had added clear wood from the date of trimming, while the unpruned portions carried knots from heart to bark.

Now, the reader may wonder what the difference means in the selling value of the lumber. Almost anybody knows that clear white pine, without knot or blemish, brings fancy prices. Mr. Pratt isn't cutting many pruned trees yet, but when he does he has no difficulty in selling the lumber for $65 a thousand, whereas he is glad to get $25 a thousand for the boards from unpruned trees.

'I figure pruning increases the value of my lumber about $40 a thousand,' said Mr. Pratt, speaking with New England conservatism."

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Extracts from "The Pine Pruner of Holderness" by Ovid M. Butler - American Forests and Forest Life. February 1925 - p. 92-94

LOOKS WISE TO PLANT

Land suitable for raising white pine can still be bought in New England for from $3 to $7 per acre. At 40 years of age, white pine in a well-stocked stand would yield on average sites about 25,000 board feet per acre, worth at least $10 per M. ft.

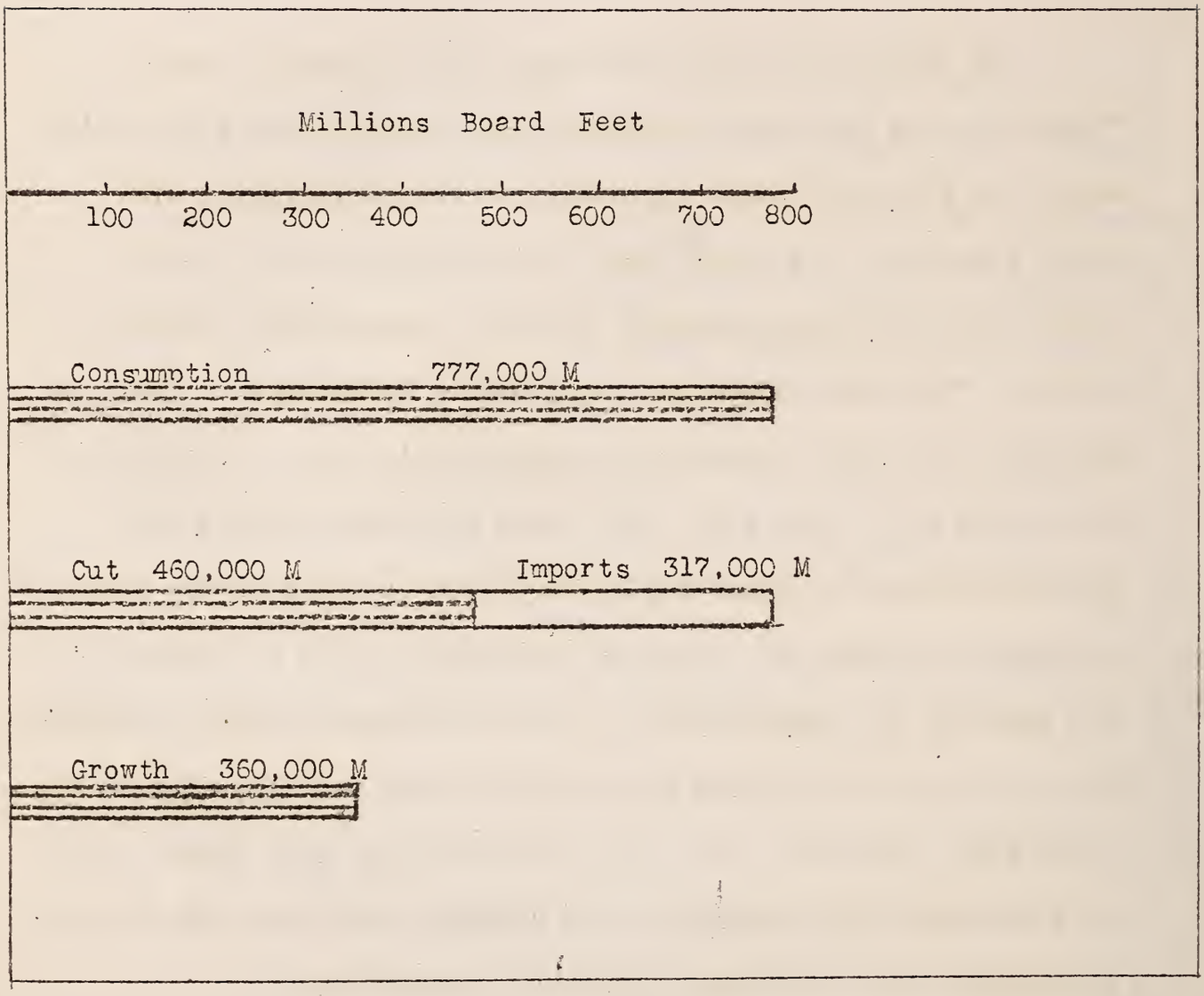
From the Plymouth County Farmer (Mass.)

Feb. 1925.

MASSACHUSETTS BELIEVES IN THE FUTURE OF WHITE PINE.

An editorial in The Washington Post for April 1 says: "Massachusetts has admirably anticipated the American Forest Week which the President has designated for the end of April. The State government has distributed for planting no fewer than 4,000,000 white pine seedlings, besides a considerable number of spruce. These are sufficient for planting 5,000 acres. That, we may say, is a small, almost an insignificant, area. It would be, if it were all in one plot. But these millions of trees have been distributed to practically every town and city in the State, so that the beneficial effect of the planting will be enjoyed in all parts of the Commonwealth. It is far better to have a thousand trees in each of ten towns than 10,000 in one town and none in the other nine. Moreover, the State has 20,000,000 more trees, which will be ready for distribution and planting next year and the year following; which will mean 25,000 acres reforested.

ANNUAL CONSUMPTION, CUT AND GROWTH OF TIMBER, OF ALL SPECIES IN NEW HAMPSHIRE




Edit: Pine contributes 30% of the merchantable timber, and 27% of the young growth in New Hampshire. Since white pine forms so large a percentage of the timber crop, the blister rust must be controlled to maintain the present amount of timber growth in the state. The acreage in white pine should be increased to supply part of the annual import of 317,000,000 feet of lumber.

## A NOTE ON THE LIMBER PINE (Pinus flexilis) AT KEW.

The following is taken from The Gardeners' Chronicle (London) for January 10, 1925:

"In the pine collection at Kew near the south-west end of the lake there is a small group of Pinus flexilis flanked with trees of Pinus radiata. The latter pine has grass-green foliage and this makes P. flexilis, which has glaucous green leaves, more distinguishable. The trees are about sixteen years old and differ in height; at a rough computation the tallest is between twenty feet and twenty-four feet high with a girth the same number of inches. The main stem is still green, smooth, and with little sign of fissures. For the past few years it has made about two feet of growth annually, which must be considered an excellent rate of growth for a Pine supposed to be a slow grower. These Pines are growing in stiff, gravelly, yellow soil. The tree is pyramidal in outline, with branches in well defined whorls with a little inclined plane; the higher branches are at an angle of 40° to 60°.

The foliage is glaucous-green and remains on the branches for several years; the needles are in fives, and on the current season's growth are erect and fairly close to it, but the older foliage grows upright. So far only two or three cones have matured and I am uncertain as to whether they contained fertile seeds or not.

Seeing that the branches are so flexible it is reasonable to think that a character of flexibility would improve the quality of the timber, which is considered soft and easily worked. C.F.C."

This supports my contention that P. flexilis is not properly appreciated in this country.

L. N. Goodding.

CONVERSATION

"Conversation is discourse between two or more people. Much of oral discourse is written, but written to be spoken. Conversation never is. But its value as preparatory to written discourse, whether this is to be spoken or not, is beyond estimate. Conversation forces one to look at a subject through the eyes of another and thus see what he could not discover for himself. Under the stimulus of opposition he is carried in his own thinking over territory he could not traverse alone. He sees that he must survey a subject from all sides if he would handle it well. He finds that all the truth is never with any one person. He has his own opinions corrected and broadened and settles down into a more moderate estimate of his own powers. Thus he masters that great lesson - toleration.

One never knows that he knows anything until he finds himself able to tell others of it. Communication mirrors to us the exact condition of our knowledge. We learn by teaching. Conversation makes the vague definite and tightens our grasp on what we before held loosely. It puts one in better possession of his own thoughts.

Conversation teaches one where to begin and what order to follow. It gives him an easy handling of his thought and the art of putting it so as to make the most of it. He learns from it that the strongest point may fail through one's lack of tact in presenting it. He attains a facile use of words. Summoning them at the instant bidding of his needs, he acquires command of his vocabulary. He learns to choose the aptest words. Watching the face and speech of his opponent, he sees whether or not his own words have carried his thought home. He is taught the danger of verbiage, the necessity of arrangement that is direct and of a style that is lucid. He learns that,

while bringing his thought to bear from many sides if need be, his effort should cease when he has lodged his thought where he wants it. In many ways then conversation can be made serviceable to the writer and to the public speaker."

J. F. M.

TOWN APPROPRIATIONS IN MAINE FOR 1925 BLISTER RUST CONTROL

State Leader W. O. Frost has forwarded this encouraging data on the town appropriations for the cooperative control work which have been made up to about April 1.

| District | Number Towns Making Appropriations | Total Appropriations |
|---|---|---|
| Androscoggin and Sagadahoc Co.s | 9 | $1150.00 |
| Cumberland Co. | 11 | 2100.00 |
| Kennebec Co. | 1 | 200.00 |
| Oxford Co. | 12 | 1700.00 |
| Penobscot Co. | -- | Old town job |
| York Co. | 15 | 2350.00 |
| | 48 | 7500.00 |

Note: The above appropriations show that the Maine towns believe in helping themselves.

## A T T E N T I O N  A G E N T ! !

### SEND IN CANKER MEASUREMENTS.

If you haven't sent the Washington Office any canker measurements from your district, as requested last fall, now is the time to do it. The snow is going, or gone, and you can get those measurements best between now and mud-time. Let's put this thing through 100%, every agent contributing a few canker measurements from his district.

Agents Baker, Boomer, Bradder, Holden, Kane, Keene, Kimball, Richardson, Robb, Tarbox, and Wheeler have already sent in canker measurements from their districts. This is only 11 out of 36 agents - - what's the matter with the other 25? Refresh your memory on what is wanted and go after it. It only takes a short time to do it and get it off your mind. The data is needed now and the sooner we receive your contribution, the sooner we can summarize the results for your use. Lend a helping hand, Agent!

J. F. M.

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### Fine Work - Kittery!

Mr. W. O. Frost writes that he has just received word from Agent Tarbox that the Town of Kittery, Maine, has raised $200.00 for blister rust control work. That ought to help considerably.

## VALUABLE INFORMATION ON CHESTNUT BLIGHT RECEIVED FROM BLISTER RUST CONTROL AGENTS.

In reply to a circular letter sent to the blister rust agents, twenty-three replies have been received giving information on the status of this disease in their territory. This information is very valuable to the Office of Forest Pathology in keeping up with the spread of the blight. The cost of collecting this information by sending out special inspectors would have been much greater than the value of this information would have warranted, but by collecting it from the blister rust agents, who were already familiar with the situation, the cost to the Bureau has been very small. I wish to express my appreciation to the blister rust agents for their cooperation in this matter.

The replies show that there is hardly any healthy chestnut left in New England and Eastern New York. Only a few resistant American and Asiatic chestnuts were reported.

G. F. GRAVATT.
Office of Forest Pathology.

# EXHIBITS

## CALIFORNIA STARTS EXHIBITING EARLY

"We had a Blister Rust Exhibit at the National Orange Show in San Bernardino, February 19 to March 1, inclusive," writes George A. Root, State Leader in California. "Although primarily devoted to the citrus fruit industry, there was a wide range of products and articles on display. Southern California is not a currant or timber section, but to acquaint the people of that section with the Blister Rust, the placing of an exhibit in this show was well warranted.

You may be interested in the following extract taken from a report entitled "County Exhibits" by O. W. Newman, Technical Assistant in the California Department of Agriculture, who has charge of the Fair exhibits for the state.

Observations were made during the County Fairs which brought out certain facts which may help in putting on successful exhibits. These observations are that:

a. One or more of the displays must show movement or life. The exhibit must be attractive and well organized.

   Running water and colored lights are valuable aids to catch attention.

b. Accuracy must be adhered to as there is always someone who is posted on every subject presented.

c. A stereomotorgraph is unquestionably a valuable asset as a crowd catcher, also as an educational feature.

d. Models-- such as a Model Dairy are of no value unless exceptionally well done. Lack of accuracy and proportion spoils the whole effect.

e. Animal mounts are always good. Live animals - birds, etc., very good.

f. Habitat groups-- behind glass always good.

g. Color photography is good but there must be some accompanying motion or special illuminations.

h. Material in a traveling exhibit should be changed to suit local conditions.

i. Exhibits should be simple, concise and self explanatory.

j. Few people look above the table top unless attention is called by movement.

k. Same set up should not be sent to same locality two years in succession."

Photographic Enlargements

The use of a few carefully selected photographic enlargements of large size is to be commended rather than the indiscriminate use of small prints. Doubly valuable are these photographs when taken of local stands of pine or of local blister rust infections.

On March 23rd at Mr. E. M. Brockway's request a set of 7 enlargements 13" x 17" were made from photographs taken in Mr. Brockway's District, and sent him for exhibit use.

Enlargements of the Waterford (Vt.) Infection photographs taken by Mr. W. J. Endersbee have been sent each state leader. These have met with hearty approval and the request for additional enlargements of other subjects which are being filled as fast as possible.

LET THE WASHINGTON OFFICE KNOW YOUR NEEDS.

R. G. Pierce R.G. Pierce

## MOTION PICTURES.

"The Pines" has been reserved for use of the Forestry Department Pennsylvania State College, April 15 to 17, and for use of Mr. A. H. Amadon for period April 22 to May 19.

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The Office of Motion Pictures reports (April 14) that there are copies of all of the Eastern Blister Rust films available for use during May, as well as two copies of the film "Blister Rust a Menace to Western Timber."

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Blister Rust Control Leaders and Agents will be interested in learning that the Office of Blister Rust Control has ordered five additional copies of the new eastern film "The Pines". These will be made available for use sometime during May.

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## CAUTION!

### CONCERNING CARE OF SCRIP BOOKS.

The attention of field employees is directed to the need of exercising the utmost care to avoid the lost of scrip books. Scrip is the equivalent of cash. If lost, it can be used by anyone finding the scrip book. It should also be remembered that scrip books purchased on transportation requests are government property for which the purchaser is responsible. Employees using scrip books are requested to guard them with the same care they would use in handling money. Careless handling of scrip books such as leaving them around in desks, etc., is inviting loss.

J. F. M.

## PERSONAL.

Miss Barraclough arrived January 31, Weight 7 lbs., 12 ounces. Congratulations, Daddy!

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Mr. Ralph P. Gould of Topsfield, Asst. Agent in blister rust control in Massachusetts was married in March to Miss Dorothy C. Hale of Haverhill. We welcome this addition to the Blister Rust Family.

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Mr. George A. Root writes (April 9) that he has so far recovered from his illness, due to a mastoid operation, that he is able to be back at the office.

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Clarence C. Strong was appointed Forest Ranger in this Office, effective April 1.

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Mr. Percy E. Melis' appointment as Forest Ranger in this Office effective April 8, has been received. Mr. Melis will work in Southern Oregon.

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Mr. J. L. Bedwell stopped off at the Washington Office enroute West on April 9 and 10, after a pleasant and instructive trip through the Eastern District.

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Mr. J. W. Rodner resigned February 28, and Mr. John L. Loseth resigned March 31. Both men worked out of the Spokane Office.

## QUARANTINE NOTES

Reports of the Mississippi Valley inspectors indicate that nursery stock shipments are heavier than usual so far this season. At Kansas City the peak was apparently reached on April 4 when 1488 shipments were examined. At St. Paul the number is increasing daily. Inspector Ninman's reports on conditions at Omaha indicate that the shipments of nursery stock are about twice as heavy as in 1924, especially express shipments.

M. Thompson.

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A memorandum dated March 14, 1925 from Mr. R. H. Allen, Director of the Massachusetts Division of Plant Pest Control, states that the entry of Black Currants into the state is prohibited entirely.

This memo to Massachusetts nurserymen includes the following valuable constructive suggestions:

"Your attention is again called to the fact that it is the general recommendation of this department that currant and gooseberry bushes should not be grown in any section of the State in situations within 900 feet of white pines of any value, because of the danger of spreading the white pine blister rust. It would be greatly appreciated, therefore, if the Massachusetts Nurserymen would continue to avoid the sale of currant and gooseberry stock, including the so-called Flowering Currants, for planting in situations where they may in any way

endanger valuable white pines.

In addition to this general recommendation, the planting of such stock has been prohibited in certain towns in which it has been necessary to remove large numbers of these bushes in protecting areas of white pine. A copy of an order containing the list of these towns is enclosed herewith. Will you kindly see that no shipments of these plants are made into the restricted towns, from your nursery."

Mr. R. H. Allen, Director of the Division of Plant Pest Control, in a letter received recently writes that the Massachusetts Department of Agriculture has started work on the eradication of all cultivated black currants within one mile of Massachusetts state and commercial nurseries producing white pine.

## DIRIGO -- MEANING "I LEAD."

Yes, Maine surely leads. Just listen to this one! The Lewiston Sun of January 21 contained a big head-lined article about two brothers being arrested and tried at Bath for selling booze. They were found guilty of selling alcohol to two Federal liquor agents who declared They Posed As Representatives Of The University of Maine Seeking White Pine Blister Rust.

Can you beat it?

W. O. FROST.

# PUBLICATIONS

Blister Rust

Anon. I. Penalties Imposed for Violations of the Plant Quarantine Act. p. 127.

II. Summaries of All Penalties Imposed under the Plant Quarantine Act 1914 to 1924 inclusive, p. 128.

III. Analysis of Convictions and Fines Under Blister Rust Quarantine, (No.26) 1922, 1923, and 1924. p.129

Federal Horticultural Board Service and Regulatory Announcements Oct.-Dec. 1924, March 1925, p. 127-129.

Note: The first two headings cover the blister rust quarantines as well as others. The tables under II and III listed above, show that the Department has been especially active in enforcing the blister rust quarantine.

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Anon. Ten Facts Regarding Blister Rust - - Ten Reasons Why Your Town Should Appropriate for Blister Rust Control. Rockingham County Farmer, (N.H.) Vol.8, No.2, p.6, March 1925.

The Pines of My Town are Being Protected from the Blister Rust Disease. Are Your Pines Protected? Rockingham County Farmer, (N.H.) Vol. 8, No. 2, p.1, March 1925. Data is presented showing past work in this county.

Towns Anxious to Push Blister Rust Control Work. Economy and Blister Rust Control. Merrimack County (N.H.) Farmers Bulletin. Vol. 11, No. 4, p. 5. Apr. 1925.

White Pine Blister Rust Control, in Biennial Report of the Forestry Commission of New Hampshire, for the Two Fiscal Years ending June 30, 1924, p. 43-47.

It will pay our agents not only to study this report on blister rust control, but other sections in the report. Especial attention should be called to the large number of graphs.

Barron, L. Save the White Pines. Gard. Mag. & Home Build. Vol. 40, No. 6, p. 392. illus. Feb. 1925.

Boyce, J. S. Investigative Work on White Pine Blister Rust in the Pacific Northwest for 1923. Abstract in Phytopathology Vol. 15, No. 2. p. 124. Feb. 1925.

Darrow, George M. and Detwiler, S.B. Currants and Gooseberries: Their Relation to White Pine Blister Rust. Farmers Bulletin 1398.
A new edition of 30,000 copies has just been received; of which 11,000 have already been sent the Western District.

Pettis, C. R. White Pine Blister Rust. Part of the 14th Annual Report for the year 1924, of the New York Conservation Commission. 1925, p. 176.
This is an excellent report of the cooperative work being carried on in New York. Easy to read because of paragraph headings, and is well illustrated.

Violette, Neil L. White Pine Blister Rust, in Fifteenth Biennial Report of the Forest Commissioner of Maine. 1923-1924, p. 51-55.

White Pine

Butler, Ovid M. The Pine Pruner of Holderness. American Forests and Forest Life, February 1925. p. 92-94.
A long extract from this article can be found in another part of this issue.

Hicock, Henry W. The Rainbow Forest Plantations (Conn.) Guide to Experimental Plots and Report of Progress 1924. Conn. Agric. Experiment Station Bul. 262, Dec. 1924. (Forestry Publication No. 15.)
This is an interesting report and worth studying by our men, for comparison of white pine with other indigenous and exotic species. White pine is used in pure stand and in various mixtures, and with different spacings in 44 of the 70 plots under discussion.

Forestry

Anon. Bibliography on Farm Forestry. Bibliography on Thinning. Both of these bibliographies are in mimeographed form and may be secured by writing the Librarian, U. S. Forest Service, at Washington, D. C.

Forestry Lessons on Home Woodlands - has been recently revised by the U. S. Forest Service, and may be secured free from the Div. of Publications, U.S.D.A. as long as the supply lasts.

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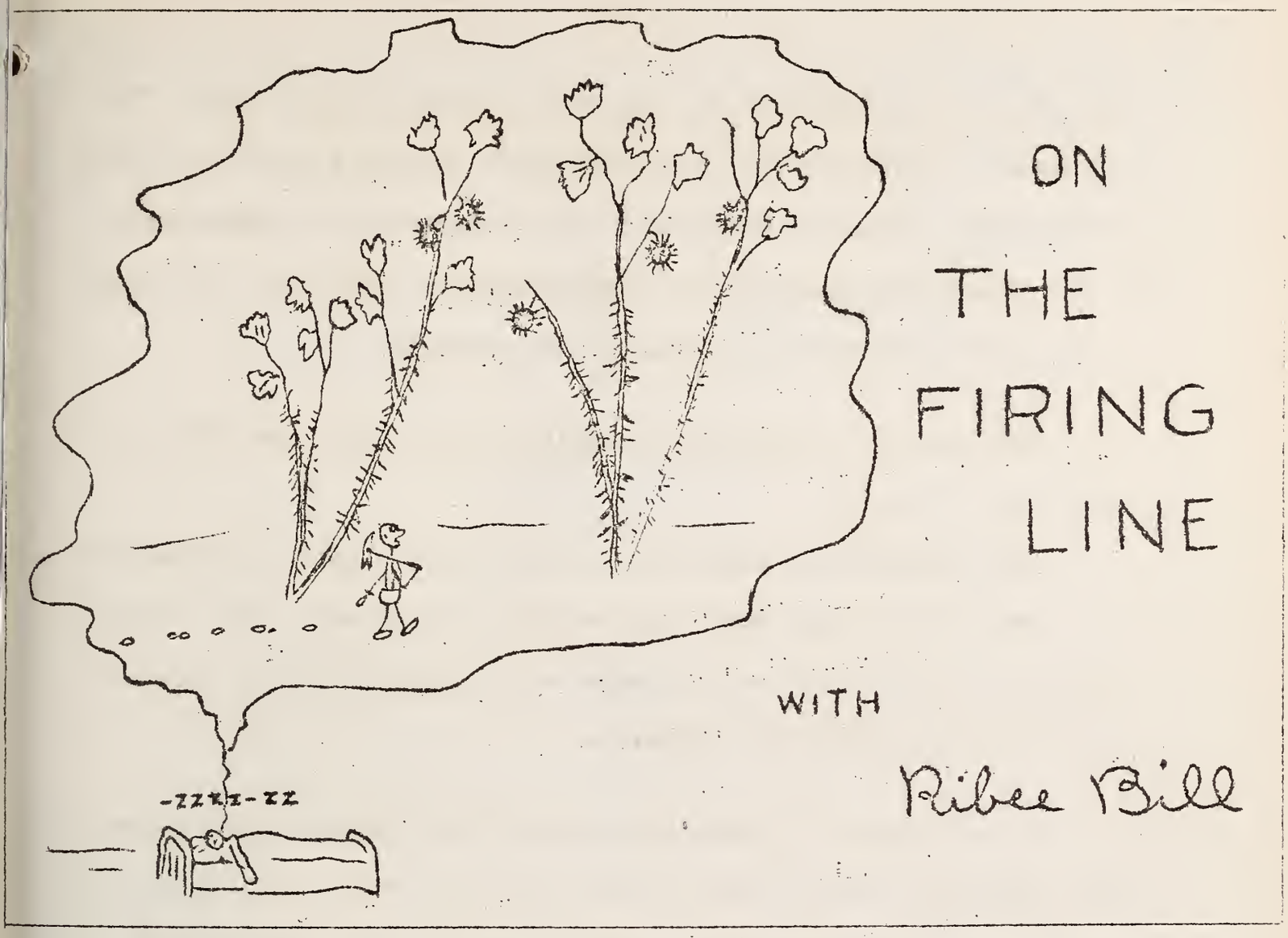


New Hampshire again on top! - Not that the Granite State ever takes a back seat in putting to good use her allotment of space in the Blister Rust News. Good work, Brother Newman - the fine spirit which you and your associates show in working for the success of the Control Program as a whole, is very commendable.

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A new eradication season is at our door. With it, comes renewed opportunities to make improvements in control methods, improvements fully as important as those in the educational end of our work, that have marked the last three years.

Looking back a bit to the beginning of the present campaign and comparing that day to this, I see a striking transformation in the pre-

sentation to the public of the subject of Blister Rust Control. The few crude and little-tried ideas have grown through a period of weeding out by trial, adding to by thought, and strengthening by experience, to the present-day successfully-applied methods. Upon the continuance of the growth depends the success of the campaign.

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WHY should it cost more to eradicate the Ribes from this acre than from that acre?

WHAT FACTORS are important in making up the cost of eradication?

We all can throw some light on these and on many other control problems by observation and by comparison of conditions and costs on different areas within our districts.

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Size counts - in exhibiting Blister Rust cankers. Barraclough, what impression would a dozen branch infections have made in place of the two large trunk cankers you used in front of that town hall at meeting time?

Read that article on pine-pruning again, Agent, and stick the details of cost and results in your notebook - you will find them useful.

# BLISTER RUST NEWS

U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

# CONTENTS - VOL. 9, NO. 5.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D.C.

# THE BLISTER RUST NEWS.

Issued by the Office of Blister Rust Control
and the Cooperating States.

VERMONT NUMBER VOL. 9 NO. 5. MAY 15, 1925.

## FOREWORD

By W. G. Hastings.

Some of you may recall that Dr. C. A. Schenck, of Biltmore fame, cautioned American foresters more than thirty years ago to be careful about the introduction of the white pine blister rust into America. The advice was well intended and well worth while but was not heeded. By 1900 the disease had come; by 1910 it had made itself known; by 1920 it had become thoroughly established over large areas, and by 1930 it will be common knowledge that the white pine does not seed up like it used to unless protected from blister rust. By the time the disease has been on the American Continent a century or two, white pine which has seeded naturally and grown to maturity without man's assistance will be unknown in Ribes-infested regions.

"The mills of the goods grind slowly but they grind exceeding fine." It would have been wiser to have heeded good advice. The fight is now on to make America safe for the white pine.

It was in the years 1917 and 1918 that a change in the battle front took place in Vermont. Prior to that date the inoffensive pine was looked upon as the offender, and the chief effort to control the blister rust was centered on extermination of the disease. Diseased pines were sought out and destroyed. All infected areas that could be located were inspected and

an effort made to stamp out the disease, first by destroying the diseased pine and second by destroying the other host plants. Emphasis, however, had been placed on locating every diseased pine and destroying it.

In 1917 an entirely new personnel in forestry matters in Vermont became interested and later responsible for the conduct of blister rust control. This new personnel was unfamiliar with the disease and its previous history in America, and was unfamiliar with the control measures in vogue prior to that date. The established methods seemed a useless effort and by 1917 the emphasis had been shifted from the destruction of diseased pines to the destruction of all Ribes within limited areas. The same transition took place simultaneously in other states.

No one can definitely say that the ultimate solution of the blister rust control problem has been reached. No one can yet safely predict the final outcome, But we can most emphatically say that the fight to save the pine is well worth while, no matter how extensive or costly the effort may become.

The pine is the most easily handled of the New England trees from a silvicultural standpoint. Therefore it should be extensively cultivated. Interest must be created in forest planting for there is a greater acreage of waste land in Vermont upon which natural regeneration cannot take place within a reasonable length of time than there is of timber land in need of silvicultural treatment. White pine has a highly important place to fill for this purpose.

The public has responded well to the efforts made to protect existing pine stands. If Ribes eradication is carried on in the future, when and where needed, the pine will be safe. It is part of the foresters duty henceforth to continue their service work to pine owners to the extent necessary to keep the pine lands free of Ribes. If the present methods of accomplishing this do not succeed, other must be devised. The pine must be saved.

# THE WHITE PINE BLISTER RUST IN VERMONT.

By Dr. Perley Spaulding

Office of Forest Pathology.

The white pine blister rust was first found in Vermont in June 1909, at the same time that it was found to have been introduced into the states of New York, New Hampshire, Massachusetts, Connecticut and Pennsylvania. An account of this is given in Bureau of Plant Industry Bulletin 206, p. 36-40, 1911. Suspected white pine stock also was imported into New Jersey, Minnesota, Ohio, Indiana and the province of Ontario. Subsequent developments have shown that these were infected. While the disease undoubtedly entered the country at this time, there is no question that it had previously been brought into some of the states, Vermont included, in imported white pine stock. There is good evidence that it was here as early as 1900. It was found in many places between its discovery upon pines here in 1909 and 1913, and in every instance where the origin of the infected trees could be determined it was found that they were imported from Europe. Far the largest number came from Germany, but some also came from France.

Public opinion would not allow total destruction of the diseased lots of young pines when they were found, so an attempt was made to destroy only those trees which definitely showed the disease. By this means and the eradication of Ribes for 100 to 200 yards around plantations made of the imported trees, the disease was held in check until 1913, when it became evident that it was escaping. In this year the first instance of its occurrence upon native pines came to light at Lyndonville. Close inquiry did not reveal how it got there, but the later finding of an older infection some distance from the first indicated that foreign stock introduced about 1900 probably started the outbreak. White pine was brought from England to Lyndonville in 1900.

In 1916 the disease broke out generally over New England and was found to be especially prevalent in the Connecticut and Champlain valleys in Vermont. The writer has for several years watched the occurrence of infections upon wild gooseberries in his native town of Bethel, about ten miles from the nearest known pine infection in Royalton, and is convinced that infected pines are scattered over the state to such an extent that any especially susceptible Ribes are liable to become infected by wind-blown aeciospores. It is questionable whether the disease even now has reached its greatest intensity in Vermont; because of the scattered distribution of white pine in many parts of the state it is quite certain that outbreak areas will be found with increasing frequency for some years yet. It behooves the pine owner to minimize damage by early removal of the Ribes.

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VERMONT'S OPPORTUNITY

"It will require a planting program of 40,000,000 trees a year for twenty-five years to reforest Vermont's waste acreage. Worn out lands - - may be purchased for a few dollars per acre."

Extract from Vermont Forestry Publication. No. 25; 1922.

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One acre of planted pine will produce a car load of lumber in 35 years.
Only a rich man can afford to own unproductive land.
A good growing forest often helps sell the farm.

A. F. Hawes.

## CLUB BOYS INTERESTED IN PINE WOOD LOT MANAGEMENT.

Club boys in New Hampshire have demonstrated, through a junior extension forestry project, that trees may be looked upon and managed as a crop if given attention under the direction of a forestry expert. A report received by the United States Department of Agriculture states that club boys are being taught the management of pine woodlots through handling a quarter of an acre up to an acre on the family farm. The work has been received with enthusiasm and has served its purpose very effectively. It consists of two general types of activity - planting and thinning. Sometimes the latter work is referred to an improvement cutting, or weeding.

It was found necessary to emphasize and call the attention of club members to the different types of improvement cuttings and to prepare definite instructions, both written and oral, for each type. Each lot presents different conditions and the solution of problems which require a personal visit to the junior extension agent. This limits the number of club members who can undertake the work until a forestry specialist can be added to the extension staff.

The boys who take part in the tree-planting division are expected to plant at least a fourth of an acre between March 1 and June 1 this year. The extension agent will supervise the purchase and planting of the trees. Each club member is to report the number of trees living on October 15, 1925.

Improvement cutting deals with three groups of trees - young pine stands under 10 years of age, those between 10 and 30 years old, and those over 30 years. The object in the first group is to free the young growth from overtopping older or undesirable trees; in the second, to concentrate growth on the more valuable trees; and in the third type, to increase the diameter growth of the trees and the total production of the stand.

Thirty-one boys enrolled in the planting work last year and set out over 13,000 seedlings. Some of these were planted by boys on town land, some on national reservations, and others on the home farm woodlot. Several boys enrolled for thinning. The planting work received more popular support and public praise than the wood-lot management phase. To give this new project a start the Society for the Protection of New Hampshire Forests has offered generous money prizes for a State and county forestry contest which started this past fall. Six counties have entered, and a fresh impetus is being given the junior forestry work. The contest will entend until next October.

Edit: This idea of getting club boys interested in forestry is a good one. Control of the blister rust should come in for its share of attention in the work of forest protection.

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## TO STUDY PINE WEEVIL.

An Amherst, Mass., dispatch to the press to-day, April 14, 1925, states that gifts of $5,000 for two years study of white pine weevil, which severely damages timber each year by destroying the terminal shoots of young trees, were announced there yesterday by Director S. T. Dana of the Northeastern Forest Experiment Station.

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## MUSINGS FROM THE VERMONT HILLS

### "The Pines"

The State Forest Service has purchased "The Pines" and the film is now being shown throughout the State. A form letter is being sent to all movie houses asking them to cooperate by giving us a date for a showing. Franked cards are included for their reply. The film is being reserved for schools and clubs during American Forest Week.

### Comparative Study of White Pine and Other Woods

The survey has been completed for the year with Essex, Caledonia, Windsor, Windham, and part of Orange County covered. We feel that the survey has been of great benefit both to the end of blister rust control and to the Vermont Forest Service. If the data, when summarized, shows the results we are now expecting, the survey will undoubtedly be continued another winter.

### Forest Service

Mr. H. N. Wheeler of the U.S.F.S. is now touring the State giving a series of lectures on general forestry. Among the slides he shows, are several very good ones on blister rust. Mr. Pierce is also getting quite a bit of publicity, since one of the slides contains a good picture of him.

### Eradication

The eradication season will start in Vermont May 1. Leaves are coming out fast on the Ribes and there should be no difficulty in finding the bushes after that date. Agent Rose reports more signed-up cooperation to date than he has ever had before.

### The Waterford Area

Mr. Endersbee is now here (April 28) taking more photographs of damage in the Waterford area. Good work, Bill. Those last pictures you took there sure are wonders!

Floyd M. Callward

## NEW HAMPSHIRE TOWNS

## ANXIOUS TO PUSH BLISTER RUST CONTROL WORK.

Town meeting has once more become a matter of history. After the smoke of the conflict has cleared away and we are able to canvass the returns we find that the various and several towns in Merrimack County have once more registered their desire to do everything possible to control the White Pine Blister Rust. Sixteen towns made appropriations for the purpose of cooperating with the New Hampshire Forestry Department in this work. The City of Concord has provided for an appropriation in their budget for 1925.

The City of Franklin re-appropriated $95.50, balance left from 1924 work for the purpose of doing some checking. This makes a total of 18 towns and cities providing $8,595.50 for 1925 control work as follows:

| | | | |
|---|---|---|---|
| Allenstown | $400.00 | Henniker | $400.00 |
| Boscawen | 400.00 | Hill | 400.00 |
| Bradford | 400.00 | Hookset | 400.00 |
| Canterbury | 500.00 | Hopkinton | 400.00 |
| Chichester | 600.00 | New London | 400.00 |
| Concord | 1000.00 | Pembroke | 400.00 |
| Dunbarton | 400.00 | Pittsfield | 1200.00 |
| Epsom | 400.00 | Sutton | 400.00 |
| Franklin | 95.50 | Webster | 400.00 |

Each of these appropriations will be increased 25% by the New Hampshire Forestry Department, making a total of $10,744.38 available for 1925 work.

If the appropriating of money for the control of the White Pine Blister Rust means anything at all, it surely represents a real, deep conviction of the serious menace the Blister Rust disease is to the white pine (and the necessity of applying control measures). It is also an expression of confidence in the methods used to control this dread disease.

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Mr. Thos. J. King, Agent in Merrimack County, New Hampshire, has sent in the above interesting report, which appeared in the Merrimack County Farmers Bulletin for April 1925.

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ALL SET FOR RIBES ERADICATION IN VERMONT.

The eradication season is coming on about two weeks earlier than usual, although the snow storm of April 19th was somewhat of a setback. Several field demonstrations will be held on the infection area at Townshend, Vermont, the first week in May.

One red currant owner ( a man ) has phoned in for a blank to sign for the removal of his Ribes to protect his neighbor's pine. Rather unusual, hope he doesn't ask for that 50¢ per bush.

S. V. Holden

Agent.

## WINTER WORK IN VERMONT.

By F. H. Rose.

During the past winter a survey of white pine and other woods used in the lumber industry was conducted in connection with blister rust work in Vermont, and some worth while results were obtained from it. It was the custom of the agent to visit all wood using concerns and saw mill owners in his district in connection with his educational activities and obtain information as to the amount of lumber used by species, the value of the same and other information relative to the plant, such as the number of acres of timber owned by the firm, how much of it was white pine, whether it had been protected from blister rust, and the arranging for an inspection if it had not been eradicated. In some cases it was possible to sign cooperators without an inspection. On one occasion while interviewing a mill owner and talking blister rust he said that he did not own any pine but that a friend was visiting him who had a nice pine lot. Upon being introduced to him I recognized that he was a pine owner to whom I had written several times and had received no reply. After explaining the blister rust situation he was undecided as to the protecting of his lot, but upon asking the mill owner's advice he signed a contract to cooperate.

From a purely educational standpoint the survey was a big success as mill owners were asked to inform pine owners bringing logs to the mill of the danger from blister rust, and as a rule, they were more than willing to do this, as they could quickly see that it was to their advantage to protect the forests from disease. The moral support of mill owners, who as a rule are men of influence in their communities, will be of immense value in the future. A list of persons owning pine was also secured, which will be of value in making inspections later.

Another result of the survey is that it proved a liberal education for the agent in that it gave him much valuable information concerning the local utilization of white pine and other woods.

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Summary of Situation in Vermont

1. To date approximately 25.7% of all white pine in Vermont has been protected from blister rust by Ribes eradication.
2. The ratio of area protected to area eradicated for Vermont is approximately 1 to 4.2.
3. 10,063.8 acres of pine must be protected each year for the next five years, in order to complete the control program by 1930.
4. Present conditions indicate that Caledonia County will be completed during 1925. This will release the Agent in that District for work in the Rutland district, where the bulk of unprotected pine still remains.

By F.M. Callward, State Leader
From Annual Report for Vermont for 1924.

## STATE LEADER APPEARS ON THE BROADCASTING PROGRAM IN MASSACHUSETTS FOR FOREST WEEK.

State Leader Perry, of Massachusetts, was in on the Radio Program for Forest Week, which was arranged by the Massachusetts Forestry Association. Mr. Perry spoke on "The White Pine Blister Rust" from station W.N.A.C. one day. Speakers for other days included Mr. W. A.L. Bazeley, Mr. S.T. Dana, Prof. R.T. Fisher, Mr. H.A. Reynolds, Mr. H.O. Cook and Mrs. Myron Davis, Jr.

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## ON TIME.

"

To be on time always, is to be ahead of time now and then.
This means simply that the punctual man or woman often
gets there a little bit before the minute.
This is the kind of minute-man we take off our hats to.
Not the one who is packed up and ready to leave on the minute
- but the one who arrives before the minute to begin.
One would think, observing some people, that they made
up for coming in late by leaving early.
One of the marks of interest is eagerness.
The man who is eager to start will not be denied in the
race. He has the will to win it.
Great business organizations are built of such men and
women.
They are alive!
They are going somewhere - and they know where that
somewhere is, and what it means to get there.
The unpunctual man or woman is a man or woman that
has never grown up.
What in the schoolboy or schoolgirl has been punished
for ages has no excuse whatever in a business man
or woman.
There is no such thing as an habitually late business-man.
For business depends on punctuality; in getting off, in
getting on, in getting there - - ON TIME. "

Extract from "Camp Fire".

The "Gang" in one of its sober moments.

TENTH ANNUAL BLISTER RUST CONFERENCE,
WASHINGTON, D.C., FEB. 1925

Outside the Bars.

The Washington Monument.

FAMILIAR WASHINGTON SCENES.

The Smithsonian Institute.

## GROWTH OF COOPERATIVE ERADICATION WORK IN VERMONT.

In 1919 attempts were made to induce the pine owner to protect his pines from the rust. The cooperating pine owner was asked to pay part of the cost of eradicating currant and gooseberry bushes. This policy of private cooperation has been continued to the present time but the portion of the cost borne by the pine owner has been gradually increased until now the pine owner pays all the labor costs of protection.

The following table shows the growth of cooperative Ribes eradication work from 1920 to the present year.

| Year | No. of Cooperators | Acreage Eradicated | Cost per acre. |
|---|---|---|---|
| 1920 | 29 | 4,501 | $.716 |
| 1921 | 31 | 6,317 | .548 |
| 1922 | 125 | 13,512 | .465 |
| 1923 | 220 | 25,762 | .333 |
| 1924 | 247 | 25,688 | .361 |

One town cooperated.

J.E. Riley.

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## AN EARLY RECORD FOR AECIOSPORES FROM NEW HAMPSHIRE.

Agent S.H. Boomer reports finding aeciospores at Tamworth, Carroll County, New Hampshire on April 30, 1925.

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Mr. S.H. Boomer reports an interesting trip with other New Hampshire agents from Woodsville, New Hampshire, to Waterford, Vermont, and return via Lebanon and Concord on April 17 and 18.

Then it snowed 14 inches on the 20th.

## REASONING WITH PINE OWNERS

Agents are constantly overcoming reasons given by land owners for not undertaking blister rust control work. The following points may be of help in formulating your replies to their arguments. See if you can overthrow their reasoning by showing (1) that the basis from which their argument proceeds is unwarrantably assumed; or that (2) if they prove anything they prove too much - an absurdity; or that (3) even if true, the reasoning from them is incorrect and illogical; that (4) the conclusion they reached is in opposition with that which you can establish as true by positive arguments of your own which cannot be disproved. Apply the above points to the principal reasons which owners advance for not protecting their pine crops against the blister rust. Then try to frame your replies to these arguments in such a way as to overcome them.

J.M.

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## STILL INTERESTED IN BLISTER RUST CONTROL.

Mr. Kenneth J. Braden, now teaching at the High School in Portland, Maine, was formerly on Blister Rust Control work in Minnesota back in the early days of 1917, as well as in subsequent years. He writes on April 15:

"Just received the second package of Blister Rust News, and wish to thank you for keeping me supplied. I was much interested in reading what Stillinger and Johnson and some more of my old friends had to say for themselves.

I see enough blister rust around here so I know it is still traveling. But a sadder sight than the rust is the generally neglected woodlands, which might be turned into mints. And then they wonder why they are poor "down in Maine". I have plenty of chance to "bear down" on this in my economics classes, but city kids don't feel very keenly on a subject of that kind."

## CREW WORK STARTS EARLY IN NEW YORK.

One Blister Rust crew starts Ribes eradication in Columbia County on April 23. This is the earliest date that eradication crews have ever been started in the state.

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## EDUCATIONAL SCHOOL FOR AGENTS

During the week of April 6, Dr. York, State Forest Pathologist, conducted a training school for blister rust control agents. This was attended by ten agents from the white pine counties, six prospective eradication assistants and two scouts. Detailed instruction was given on the disease and on control and educational methods in force in this State.

Mr. A.B. Graham, In Charge of the Division of Subject Matter Specialists, U.S. Department of Agriculture, was present for a day and addressed the conference. Charles A. Taylor of Ithaca, Assistant County Agent Leader, together with several Farm Bureau agents were present the last day. The object of the school and conference was to better train the field force for the intensive interview work which has already started.

(From The Observer, New York, for May 1925)

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## HOW A GOOD LETTER GOT A BIG COOPERATOR.

By Geo. E. Stevens.

Every agent has his own way of first approaching a pine owner. I find, and always have found, that a letter to a pine owner has done more to reach the man and get him thinking about blister rust than any other means. All other means are necessary and must go along with the letter, for without them (such as interviews, follow up calls, inspection of areas, etc.) the letter would be useless. But the letter paves the way for the interview and makes your secondary approach an easy one.

Note the following example:

All I knew of the owners was that the Little Falls Board of Public Works had set out a lot of trees so I wrote as follows: -

Little Falls Board of Public Works,
Little Falls, New York.

Gentlemen:-

I wish to call your attention to a serious disease of the white pines, THE WHITE PINE BLISTER RUST, that is destroying the white pines in our country. As you have so many pines, I am sure you will bear with me while I explain the matter somewhat in detail, since the loss of your pines would not only be great financially, but for other reasons, still greater.

I am enclosing a pamphlet that explains this disease in detail. The main features are thus: In the spring, the white pines show yellow colored blisters. These blisters are fungus growths that produce small spores or seeds that are carried by the wind to the currant and gooseberry bushes where they grow and develop on the leaves. Later in the season, this disease on the leaves of the currant and gooseberry bushes fruits, and produces spores that are carried by the wind back to the pines. This disease will not carry from pine to pine. It will not severely damage white pine that are more than 900 feet from the currant and gooseberry bushes. So we stop the spread of blister rust by removing and destroying, all wild and cultivated, currant and gooseberry bushes within the pine stand and up to a distance of 900 feet from it. This gives adequate protection to the white pines.

The New York State Conservation Commission, in cooperation with the United States Department of Agriculture, is carrying on the work of eradication of currant and gooseberry bushes at a small cost to the cooperator. We supply the supervision of eradication to all those cooperating.

Now if you are interested in protecting your pines, kindly advise me by return mail, using the enclosed franked envelope. I should be glad to make an inspection of your pines and to advise you accordingly. Inspections cost you nothing. This service is maintained in order to give aid to pine owners.

Awaiting an early reply, I am

Sincerely yours,

George E. Stevens
Blister Rust Control Agent.

Board of Public Works

City of Little Falls, N. Y.

April 24, 1925

Mr. Geo. E. Stevens,
Blister Rust Control Agent,
Lowville, N. Y.

Dear Sir:

We will be glad to accept your offer to inspect our pines whenever convenient for you.

We are at present setting out 125,000 spruce and pines, which will complete a total of 550,000 trees mostly of those species.

Thanking you for your offer,

Yours truly,
Silas E. Feeter
City Engineer.

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Then on May 1, 1925, I followed up the letter and met the Asst. City Engineer who accompanied me on the inspection of their plantings. We found plenty of currant and gooseberry bushes throughout their area and spot infection of blister rust. (and by the way, this is the first infection I found on pines in my district since I have been stationed here). I pointed out to him the various kinds of bushes found and described, in detail, blister rust. That night, the Board of Public Works met and went over the plan of protecting the water shed. The meeting resulted in the Board drawing up a resolution as follows:-

By All Commissioners:

Resolved. That the city Engineer be instructed to communicate with George E. Stevens, representative of the United States Department of Agriculture, advising him that this Board desires the services gratis of one foreman to supervise and one man. This Board to furnish at least five men for the purpose of removing the cause of Blister Rust from the reforested part of the City Water Shed according to the best practice, a number of trees having been found to be diseased. It is estimated the work will take from ten days to two weeks.

Ayes All.

Then in the next mail I received the following letter from the Board showing their cooperation.

BOARD OF PUBLIC WORKS

City of

LITTLE FALLS, NEW YORK

May 2, 1925.

Mr. George E. Stevens,
Blister Rust Control Agent,
Lowville, New York.

Dear Sir:-

Enclosed please find a copy of a resolution passed by this Board last night, accepting your offer to go over our water shed in an effort to control Blister Rust.

We will be ready to begin this work about May 18, 1925, if that time is convenient to you. Kindly let us know in advance just when to expect your men.

Thanking you for your interest in the matter,

Yours truly,

(Signed) Silas S. Feeter
City Engineer.

(Enc.)

and last but not least, comes a news article that apparently the Board gave out to the newspapers. They beat me to it.

## FACTS THAT A MASSACHUSETTS BLISTER RUST INSPECTOR SHOULD KNOW.

Mr. C. C. Perry, State Leader in Massachusetts, is to be congratulated on putting out the 16-page mimeographed leaflet under the above title.

The facts are summarized as follows:



(Editor: - Under "Available Publications" on page 5 could be added Farmers Bulletin 1398, U.S. Department of Agriculture, "Currants and Gooseberries, Their Culture and Relation to White Pine Blister Rust.")

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## NEW HAMPSHIRE USES A LOT OF WOOD ANNUALLY

In New Hampshire we use 750,000,000 feet of lumber annually. Of this 450,000,000 feet are cut in the state and 300,000,000 feet are brought in at great expense from the other states.

This 450,000,000 feet cut in the state is a drain and will cause a depletion, because the annual growth on timber in New Hampshire is only 350,000,000 feet. Formerly wood was not cut until at least 60 years old. Now trees 30 years old are being cut for box boards.

From State Foresters Rept.

## AMERICAN FOREST WEEK

It is just one continucus performance "down in Maine". Mr. D.S. Curtis found the "Weeks" program so full that he decided to unlimber his guns the following week - May third to ninth. He was scheduled for an outdoor meeting at Rumford, Friday May 8 with a planting demonstration, and on Saturday May 9, he talked before the Sumner Grange. In connection with blister rust control, a general forestry talk was given and the President's proclamation was read.

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## CONNECTICUT ON THE PROGRAM

Mr. W.O. Filley writes that he delivered two talks during the week; one on April 30th at Stonington High School before 200 pupils, and the second on May 1st at New Haven Commercial High School before 500 pupils. These talks were on forestry in general but both featured white pine blister rust and its control.

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F. J. Baker spent several days during April looking over ground where Ribes were eradicated in 1920. Tell us about it, Baker; your findings will make good reading. It is interesting to note that old areas are being watched so carefully. Five years have elapsed since that earlier eradication.

## HOW TO SECURE THE INTEREST OF A PROSPECTIVE COOPERATOR FROM THE START.

System, The Magazine of Business, in the January 1925, number has an article on "The Way To Increase Your Daily Sales". While this pertains to business and not to blister rust control, one of the ideas in this article is especially worthy of our agents' attention.

It is in the "OPENING SENTENCE", that we should make a direct appeal to the interest of the pine owners.

Quoting from the writer in System -"An introduction such as "Mr. Brown, I am with the Atlas Company, I would like to interest you in our latest product', is one which will fail in a great majority of cases, yet it is one which is very commonly used."

"A sentence somewhat as follows will prove much more successful: 'I have come to explain to you what we accomplished for the First National Bank, and to show you how we can make a similar saving for you'. By this approach two important centers in the prospect's mind are touched; first the mention of a competitor saving money, and second the possibility of himself saving money. Mention of the product has not even been mentioned as this very seldom arouses interest in the beginning. The statement, 'I have come to save you money' conveys the idea that gets his interest, but this in itself is too bald and needs to be worded a little more tactfully."

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## NEW COLORED LEAFLET.

Proof of the colored pictures which will appear in the new Blister Rust circular has been received, and the pictures look very fine. It is expected that the circular will be ready for distribution next month.

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## THE WHITE PINE ( PINUS STROBUS )*

BY Austin F. Hawes

"The white pine has been the chief tree advocated for planting in New England, because it thrives on dry sandy soils, as well as on the better classes of soils, because it grows very rapidly, and because it makes a soft workable wood which is in great demand. This ability of the white pine to grow on practically all soils recommends it highly for general use, but it prospers best where the soil is fairly deep, moist and loamy. The heavy clay lands of Addison county originally bore extensive pine forests, as the old stump fences still demonstrate.

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On the whole the white pine is the most rapid growing tree of New England. Although individual specimens of other species may grow as fast, acre for acre pine will produce more lumber than any other species. A height growth of three feet a year is sometimes found on young trees, and a diameter growth of older trees of one inch; however, these figures are above the average.

The great demand for white pine is due to the softness of the wood which makes it easily worked. For some purposes, as in the manufacture of matches, small boxes, etc., where short pieces can be used, the white pine is unequalled because of the fact that its branches grow in whorls and knots can therefore be discarded with very little loss. The greater the growth of the tree the longer is the clear piece of lumber available. For this reason white pine, grown on rich loam soil, will probably bring

*Forest Planting in Vermont as An Investment. Bul. 188 Vermont Agriculture Experiment Station 1915.

a particularly good price as the market becomes more specialized. In close stands the limbs die out younger and the knots are consequently smaller. The wood formed outside of these knots is perfectly clear. For these reasons a mixture of some deciduous tree, which casts a shade and breaks off the dead branches, may bring about a better grade of lumber; but the increased price thus secured for lumber would probably not make up for the deficiency in yield over that produced by a pure pine forest.

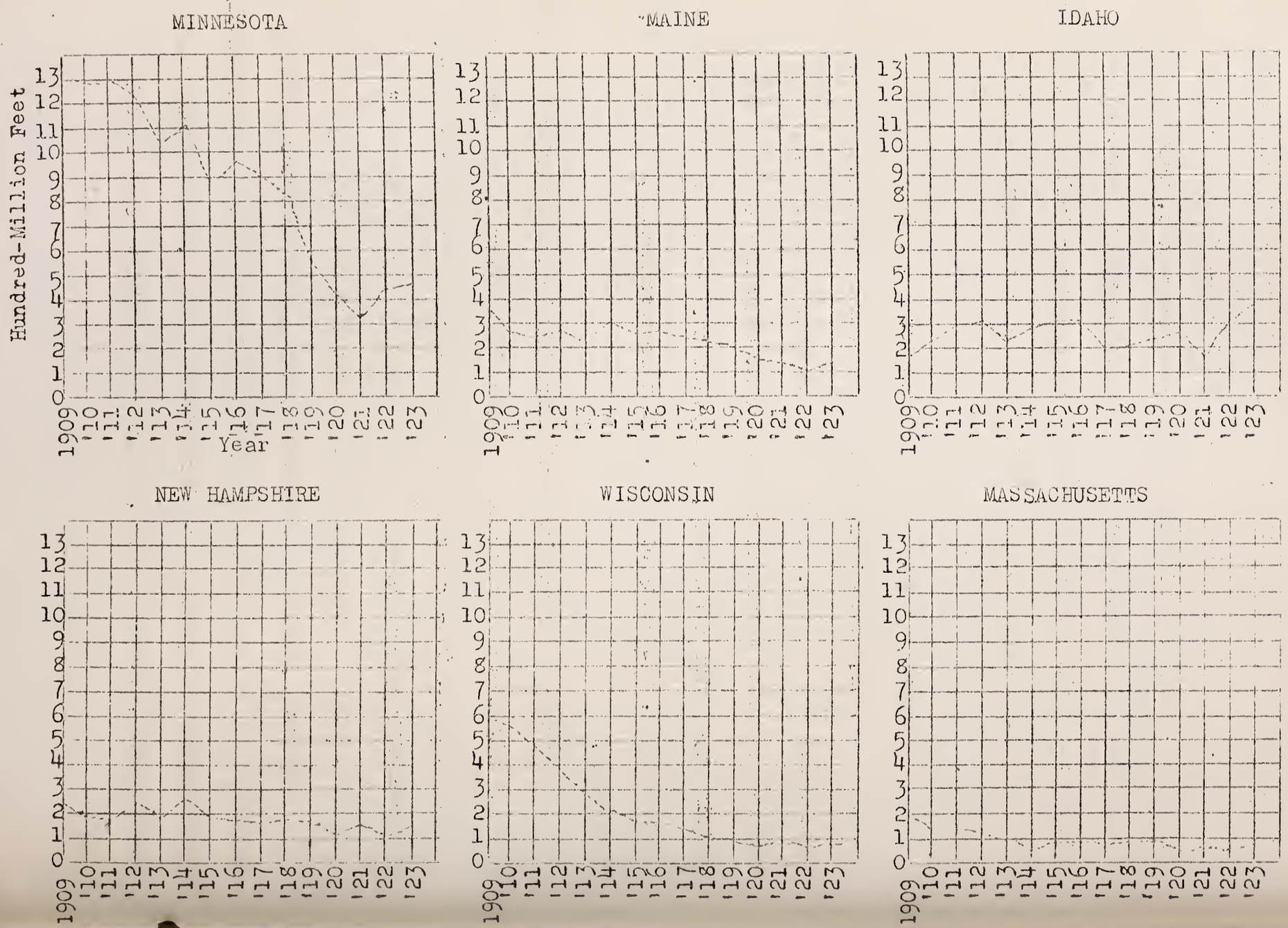
White pine may safely be planted on any soil in Vermont up to an elevation of 1,500 feet on northerly exposures, and 1,800 feet on southern and western exposures. On the better classes of soils, as those having considerable depth and mixture of loam, a spacing of 6 feet each way, giving 1,200 trees per acre, is sufficient. On the very dry, thin and sandy soils, a spacing of 5 by 6 feet is recommended, requiring 1,500 trees per acre.

Three-year transplants will usually be found most satisfactory, especially where there is any grass or brush growth. On worn-out pastures free from sod, two-year seedlings may be used with fair success. Three-year seedlings have no advantage over those a year younger."

Taking into consideration the various factors of price for lumber, rate of growth, and enemies (weevil, blight, and blister rust being mentioned as enemies of white pine) "the following trees are especially recommended for planting in Vermont: white pine, red or Norway pine, Scotch pine, European Larch, Norway spruce, white spruce, balsom fir, white ash."

LUMBER CUT OF WHITE PINE OF THE SIX LEADING STATES

FOR THE YEARS OF 1909-1923 INC.



## WHITE PINE LUMBER COMPARES VERY FAVORABLY WITH DOUGLAS FIR IN ENGLAND.

'The following notes concerning the extensive planting of the Douglas fir in this country for timber, written by Mr. A.D. Richardson, a Scotch authority on timber trees, appeared recently in the Gardeners' Chronicle, and may prove of practical value to some of our readers: "The praises of the Douglas fir have been so often sounded that one feels considerable diffidence in introducing a discordant note into the almost universal chorus of approval with which it has been received by planters in this country. But while nothing can be said against it as a fast-growing tree which, on the whole, has adapted itself well to our British climate, the idea that its timber will ever supplant that of the American white pine (Pinus strobus) for the best classes of constructional work - as has sometimes been assumed - is, I think, out of the question. In fact, with the single exception that, like that of the white pine, the timber of this tree, which is imported as Oregon pine, or Columbia red-wood, can be got in large sizes, it has no other qualification to recommend it for the purposes for which white pine has hitherto been used in the finer kinds of constructional work, and it has one or two serious defects which put it out of court in competition with that timber for the best work. The most serious objection to it is that it tends to shrink after the work is finished; and as this goes on for a considerable time afterwards, it is a very serious drawback to its use in high-class work. It has also a slight tendency to warp, or 'wind'. For the best internal work in building construction, hitherto there has been no coniferous timber which has met the requirements of the architect so satisfactorily as that of the white pine, and, as it seems to me, the only timber which is likely to become a substitute for it is its near relative, the Siberian pine (Pinus cembra), of which there is sufficient in Siberia to meet the requirements of the world for a long time to come, were it possible to get it out of that country."

Anon. - Douglas Fir As a Timber Tree.
The Estate Magazine - Issued by the country Gentlemen's Association, Ltd., London, Vol. 23, January 1923, pp. 37-38.

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## BLISTER RUST INFECTION IN NEW JERSEY.

The blister rust was discovered on cultivated black currants (Ribes nigrum) at Braddock, N.J. on October 3, 1924, by Dr. J.F. Martin. Infections in past years (1919, 1920, 1921 and 1922) have been found at the same place on black currants. No infected pine has been found in the vicinity.

## SOME PINE STATISTICS FROM VERMONT.

1. Vermont's forest area - -(including waste land)- - - - 3,750,000 acres
2. White pine area - - - - - - - - - - - - - - - - - - - - - - 67,760 acres
3. Percent of forest area in white pine . . . . . 1.8
4. Percent of white pine area with white pine under 20 years of age . . . . . 28.
5. Value of white pine . . . . . $4,420,400.00

6. Lumber cut of white pine reported by Vermont's mills 1913-1922 incl.

| | | | | | |
|---|---|---|---|---|---|
| 1913 - 16,707 | M ft. | B.M. | 1918 - 25,722 | M ft. | B.M. |
| 1914 - 15,435 | " | " | 1919 - 30,344 | " | " |
| 1915 - 15,040 | " | " | 1920 - 13,827 | " | " |
| 1916 - 13,924 | " | " | 1921 - 14,610 | " | " |
| 1917 - 18,884 | " | " | 1922 - 11,576 | " | " |

7. Vermont's rank in production of white pine in 1922, excluding western white pine - - - - - - - - - - - - - - - - - - - - - - - - - - Ninth

The annual revenue to Vermont citizens from lumber, paper and pulp, wood turning boxes and firewood amounts to $27,000,000. Other industries, as planing mills, furniture and paper factories, produce products valued at $10,100,000, which with the $27,000,000 above equals $37,100,000 - not a bad revenue from the forest.

In 1911, according to the Bulletin on Wood Using Industries in Vermont, there were 39,608,222 board feet of white pine used in the State, of which only 6,949,532 ft. were grown in the state. Only 17.55% of the white pine used in Vermont wood using industries were grown in the state. The cost of white pine lumber used in Vermont but grown in other states was $695,728.70, practically all of which could have gone to Vermont citizens if they had raised a crop of white pine.

Roy G. Pierce

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## BOX BOARD PROSPECTS

Under the above heading the auther, Geo. M. Seaman, discusses the prospects of the paper box-board industry. This will be of interest to those of us who are working with white pine. The growth of the paper

box-board shows the keen competition which the white pine box boards meet.

"The box-board industry in 1909, made 20% in tonnage of all the paper made in the United States. In 1919, they made 33 1/3%, and they have a capacity today I think to make 50%, but they haven't market enough for capacity.

Their potential capacity today in all mills is about 14,000 tons a day, that is all multiple machine production. The box-board industry has advanced right along with the package industry as sanitary methods have advanced in the handling of food product."

* * * * * * *

"Box-board is replacing wood, and replacing it very fast for packing cases and other uses. We are gaining in the other industries almost every day, bringing about the use of paper board in place of wooden boxes, even going so far as to be shipping cases to the Congo now to put rubber in and ship it back to this country, and lines that we never thought would be used with boxes are now using boxes; stoves, bicycles, beds, pianos, furniture. They now pack furniture in a factory and ship it direct to the hotels, numbered, all packed in box-board. That has come in in the last two years."

* * * * * * *

"Among the other things that the Box-board and the National Container Associations have instituted, is a sales promotion campaign, and I want to say we spend more money on that sales promotion campaign than the entire American Paper and Pulp budget, and we are meeting with marvelous success, and that is going to take up all of our slack production before we get through the new lines we are putting on through that campaign."

(From Rept. 48th Ann. Conv. Amer. Paper & Pulp Assn.)

Edit: But we must not forget that the basis of the paper box-board is generally wood.

## WHITE PINE MAINTAINS ITS LEAD IN THE ENLARGED REFORESTING PLANS IN NEW YORK STATE.

Plans have just been completed for the most extensive reforestation operations ever undertaken in this country, through the enlargement of the Commission's nurseries so as to produce between 35,000,000 and 40,000,000 two-year-old trees for planting in 1927.

This is nearly four times the present output of the nurseries and is made possible by the appropriation of $120,000 for reforestation made by the Legislature this year.

The number of seed beds in the nurseries has been increased to 4,568, the beds having an average capacity of more than 8,000 young trees.

The supply of young trees that will be produced by 1927 from the seed to be planted this spring would plant about 40,000 acres, an area larger than the county of New York, Richmond or Bronx.

There will be 1542 beds sown with white pine seed, which will require 1165 lbs. estimated to produce 12,336,000 trees. These white pine seeds have been obtained from New York, Wisconsin, Minnesota and the Province of Ontario.

There will be 1080 beds of red or Norway pine, requiring 300 lbs. of seed, estimated to produce 10,800,000 trees. A portion of these seeds was collected in the Adirondacks and some have been purchased in Minnesota and the Province of Ontario.

Other seed-beds will contain Scotch Pine, to raise two million trees, slash pine, Corsican pine, European larch, white spruce, white cedar, balsam, white ash, and black locust.

"The Observer" New York Conservation Com. Apr.1, 1925.

## EXHIBITS

Mr. Dow V. Baxter, former member of this Office, is now with the Botany Department of the University of Wisconsin. That he keeps up a keen interest in his former work is evidenced by a blister rust exhibit which he staged in the Botany Division at the University Exposition held lately in Madison, with the cooperation of the Washington Office.

He writes: (April 23) "The botany exhibit was very attractive and it stimulated a great deal of interest in the entire field of the science. While every detail of the entire exhibit was self-explanatory, demonstrators were in charge to explain and answer questions. Naturally the white pine blister rust material was given an important place among the fungi."

Edit: Note some cardinal principles of a successful exhibit:
Attractive Exhibit -
Self-explanatory, yet attended by a demonstrator.

## COOPERATION WITH FOREST SERVICE.

Mr. George A. Root in a recent letter wrote that he was short some good sugar pine pictures, which he desired to use in connection with blister rust educational work in California.

Through the courtesy of the U. S. Forest Service at Washington, which has a very complete collection of photographs of all timber trees in the United States, a good set of thirty photographs of sugar pine has been obtained and forwarded to Mr. Root.

# OFFICE COMMENTS

## TOPOGRAPHICAL MAPS

The Geological Survey will furnish without charge small orders of topographical maps but where the order is large it will be necessary to pay for same. Requests should be sent to this Office as before where an order will be made up and forwarded to the Geological Survey. Where a large number of maps are desired a statement explaining their need should be furnished. The charge is four cents per sheet for maps for official use.

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## ANTICIPATE YOUR WANTS.

Photographic films purchased in the field cost about 15% more than those purchased by the Washington Office. If you will look ahead and order in advance through the Washington Office, we can make substantial savings. Savings Banks pay 3 or 4% interest. Here is a chance to save 15% and we must save it.

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## HOW TO FORWARD LARGE MAPS AND TRACINGS.

Blue prints, maps, and tracings are frequently received at the Washington office wrapped around one or two cardboard rolls. Not invariably, but frequently, these long cardboards crack in the middle and ruin or hurt the map being sent.

A round broomstick or other stick, inserted within the roll would adequately protect the map

Try it on the broom stick next time, Agent!!

BLACK CURRANTS TO BE ERADICATED IN 12 MORE COUNTIES IN CALIFORNIA.

Black currant eradication will be carried on in at least twelve more of the northern counties during the field season of 1925, as announced by G.H. Hecke, Director, California Department of Agriculture. This work will be to the south and contiguous with those counties already completed. A crew of three men will be employed for four months starting June 1.

This work, which is an integral part of the program to prevent the introduction and spread of white pine blister rust, was begun in California in 1924 under a cooperative agreement with the California Department of Agriculture, the State Board of Forestry and the Office of Blister Rust Control, U. S. Department of Agriculture.

Four scouts were employed from August 15 to October 15. One man was retained after this time and has been continuously employed. To April 1, this year, 278 plantings of black currants with a total of 1913 bushes have been removed in seven northern counties which include Lassen, Modoc, Shasta, Siskiyou, Trinity, Del Norte and Humboldt.

The Black Currant a Public Nuisance: The cultivated black currant is more susceptible to this rust than any other type of currant or gooseberry. It is the most active agent concerned in the long distance spread and establishment of the disease. It has many characteristics which favor infection. It is a plant of exceptional vigorous growth with large leaves, the growth of which continues late in the season. The black currant bush has a large leaf surface on which spores of the rust are produced in great numbers. This disease is now found in Washington and every endeavor is being made to keep it out of California.

From Weekly News Letter of California Department of Agriculture, May 2, 1925.

## SAND RIDGE PRODUCES VALUABLE TIMBER.

Western Yellow Pine and Eastern White Pine are making the most satisfactory growth.

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Mr. P.A. Herbert of the Michigan Agricultural College writes under the above title in the Quarterly Bulletin of M.A.C. May 1924:

"On an exposed sand ridge at East Lansing, Michigan, with sand light enough to blow, a number of species were planted in May 1914, including Eastern white pine, Western yellow pine, Douglas fir and Norway spruce.

Table showing Measurement of Average tree winter of 1923-24 after 10 years of growth in the plantation.

| Species | Stock planted | Ht. in ft. in 1913 | Height | D.B.H.* | Volume | P.A.I.** |
|---|---|---|---|---|---|---|
| Western yellow pine | 2 yr. transplants | 2.0 | 12.5 ft. | 2.5 in. | .280 cu.ft. | 35% |
| Norway spruce | 4 yr. " " | 1.5 | 9.5 | 1.4 | .15 | 11% |
| White pine | 6 yr. seedlings | 0.8 | 12.0 | 1.4 | .16 | 32% |
| White pine | 6 yr. transplants | 0.5 | 14.5 | 2.1 | .27 | 12% |
| Douglas fir | 2 yr. seedlings | 0.7 | 9.0 | 1.1 | .10 | 38% |

*Diameter at breast height - 4.5 feet above the ground
**The periodic annual increment per cent for the last 5 years.

The first object of this planting has been attained; namely, the fixing of the sand. The second - to produce a valuable crop, is rapidly nearing realization."

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Mr. G.S. Doore reports a busy month for April, in Massachusetts, including examination of lands for rust, collection of specimen in aecial stage, and arranging to show them before various schools, getting ready for eradication crews, interviews, and follow-up calls. Eradication work started at New Salem on the 21st of April. A school teacher and 25 children visited infection area at Northfield and saw eradication crew at work.

# MOTION PICTURES

Western Film

The Western Blister Rust film meets with approval in the East as well as in the West. Mr. Wyckoff keeps his films busy on the Coast, although one of them is now laid up for repairs. Mr. S.V. Holden had one copy from April 15th to April 30, while Mr. Amadon has kept one busy from April 15 to May 20; and D.B. Keane from April 27 to May 4.

Who wants this film next? It has some good blister rust in it, some magnificent scenery, and can be used with any one or two of the Eastern films.

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Wanted - Some Mountains.

McNerney of Massachusetts knows what he wants, and why. A recent request for films reads something like this. "Send me two films, for an Outing Club up here. They want 'The Pines' and another one. This second film shows the best mountain scenery in the West, made in Utah on some new National Forest. It is a humdinger. If not available send a good one with mountains sprinkled through it, for these Massachusetts Mountaineers."

Edit. - Well E.J. Mc., I hope you get 'em and satisfy that Outing Club.

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Callward Plays Safe.

Mr. F. M. Callward, State Leader in Vermont, requested a couple of films for use during American Forest Week. "The Story of White Pine" and "When North Winds Blow" were forwarded him on April 28.

Edit:- I wish to commend Mr. Callward for suggesting the names of ten films, only two of which he desired. He also listed them in the order of preference. As it turned out he was sent numbers three and eight of his list.

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Good Cooperation in Maine.

The following note was received from Mr. W.O. Frost, Augusta, Maine. "Going to show 'The Pines' before the New England Health Institute next week, May 4 to 9. Expect people from all parts of the state and from many other states, as well. Dr. Coombs who saw 'The Pines' in our Office, was so favorably impressed that he solicited it for this meeting; also wanted the blister rust slides at same time. This is our way of celebrating Forestry Week.

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The Pines

The Office of Blister Rust Control has recently purchased five additional copies of "The Pines", our latest blister rust film. Reservations for these can be made at the Office of Motion Pictures.

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Other Blister Rust Films

These films are being used quite generally, less perhaps by our own agents who have shown them repeatedly, than by others. Reservations during April and May have been made for these films by persons in Arkansas, the District of Columbia, Indiana, Iowa, Maryland, Ohio, Pennsylvania, Tennessee and Wisconsin.

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The Office of Motion Pictures says that those desiring the use of films should place their orders at least two weeks ahead of time in order to arrange for substitutions in cases where first choice is not available.

## QUARANTINE NOTES.

A report is received from Mr. Geo. A. Root on the quarantine situation at the United States-Canadian border points in Washington and Idaho. Large numbers of English black currants are grown in British Columbia, and this investigation was conducted to learn whether black currants or other Ribes or possibly white pines have been brought from British Columbia into the States. Inspectors of the United States Customs are charged with inspection for violations of Federal Quarantine No. 7 which prohibits the movement of blister rust host plants from Canada and Newfoundland, as well as from certain other foreign countries, into the United States.

Mr. Root's investigation covered eight bordering towns in Washington and two in Idaho, at which points Customs inspectors are stationed.

The results are herewith summarized:

The border inspection took place last spring, somewhat early to see the average run of auto traffic. The inspection was made with the idea of acquainting the customs inspectors with the plant quarantines, especially Quarantine No. 7. The most cordial relations existed, and cooperation with the Blister Rust Office was gladly assured.

From observations and inquiries at the several points, it was found that some plant material had come across from Canada. The amount, including blister rust host plants, was smaller than anticipated. Agents from several of the larger nurseries of the Northwest have thoroughly canvassed the border points and vicinity in Washington and Idaho. While some material has been passed up by the inspectors, more than an equal amount was properly intercepted and disposed of.

## PERSONAL.

Mr. E.C. Filler reported at the Washington Office on April 18 for a ten days' stay to discuss plans for this season's cooperative control work for the eastern states.

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The whole office-force in Washington, D.C. has been having a vaccination bee lately since there have been a number of cases of smallpox in the city. Office work has been carried on sometimes under difficulties.

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Several Maine appointments have been made, effective May 4, including that of Mr. Ralph W. Hasty and Mr. Stillman L. Jones who were with us in 1923 and 1924, Mr. Fred P. Yeaton, who was also on the rolls in 1924, and Messrs. Gray H. Gurtis, and John M. White.

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In the West, Mr. John O. Loseth has been appointed Agent, effective May 1, and Miss Beulah Slade, Clerk at Corvallis, Oregon, effective May 10.

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Mr. Guy H. Kimball writes: "During the week of April 27-May 3, I spent as much time as possible in tagging up two infection areas for roadside demonstrations. These were not entirely finished during the above dates, but will be ready shortly, as I desire to show these areas during fruiting season. During the above mentioned week, two parties were interested to the point of obtaining pine seedling for planting next spring. It was also possible for me to visit an area where 15000 pines are being set out this spring. The owner of this plantation is a blister rust booster, and while there we inspected an adjoining area for ribes. Incidentally this area has been eradicated once, and will be reeradicated again this year."

# PUBLICATIONS.

## Blister Rust

Anon. Resolutions of the Northern Retail Nurserymen's Association concerning the discontinuance of Ribes nigrum.
National Nurseryman - May 1925.

McCubbin, W.A. White Pine Blister Rust in Pennsylvania, 1923. The Plant Disease Reporter, Supplement 37, p. 357, March 30, 1925.

Marchal, Emile. Elements de pathologie vegetale appliquee a l' agronomie et a la sylviculture. p. 165-169, 292; 1925.

Martin, J.F. and Posey, G.B. - Status of White Pine Blister Rust Control in the United States in 1923. The Plant Disease Reporter Supplement 37, p. 353-356, March 30, 1925.

## Manuscript Preparation

Allen, E.W. The Publication of Research. Mimeographed Lecture, Graduate School, Department of Agriculture, Feb. 11, 1925.
This mimeographed article is available to Blister Rust Employees who are interested in the subject.

## White Pine

Flint, Wm. F. Trees and Shrubs of New Hampshire. In 19th Report of Board of Trustees of the College of Agriculture and Mechanic Arts, January 1891.

Show, S. B. The Management of forest properties in the California pine region as a problem in applied ecology. Scientific Monthly, Vol. 19, No. 5, p. 548-551, figs. 2, 1924.
That yellow sugar pines, because of their greater resistance to fire, occupy a greater proportion of the mature forest than would be the case in the absence of fire, was indicated in records taken in Lassen County, where 80 percent of the mature forest was classified as yellow pine type, as compared with 51 percent in the advance reproduction constituting the basis for the new stand. In the absence of fire, firs and cedars tend, because of their greater tolerance, to become the climax forest, and since pine lumber is more highly prized than

fir, silvicultural practices such as heavy cutting, which tend to encourage reproduction of the pine, are recommended as desirable.

White Pine

Tarbox, E. E. Quantity and Growth of White Pine as influenced by density, site, and associated species.
Harvard Forest - Bul. 7, 1924, pp 30, pls 8.
B.S.R. 52:2:145.

Growth studies, carried on by the author with field assistance by P.M. Reed on 72 sample plats of pure white pine located on different quality sites in Central Massachusetts and southern New Hampshire, indicated that within very wide limits the density of stand has no apparent direct influence upon current height growth. It was noted, however, that density had an indirect influence, since weevil injury was much less severe in the thicker stands.

It was found that knot size is largely determined by the length of time required for the tree crowns to meet and form a canopy. Hence fully stocked, uniform stands insure the highest quality lumber. A constant relation was found between the average knot size in the first 12-ft. log and the number of trees per acre for all pure white pine stands whose crowns had closed by the twentieth year.

In stands allowed to remain densely stocked after 30 years of age, crown friction reduced yields, leading to the general recommendation that improvement cuttings will not only yield quick financial returns but also show a benefit in increment of the remaining trees. Yield tables compiled for 72 plats showed that, unless thinned, growth on the first-quality sites at 65 years is surpassed by that on second-quality sites, a situation explained by the greater amount of crown friction on the better-quality sites.

Studies of mixed pine and hemlock showed the two species to form an ideal combination, resulting in higher grade lumber than that obtained from either pure pine or the pine hardwood stands. At about 50 years the pines out-stripped the hemlocks, which thenceforward constituted a lower story sufficiently dense to suppress branching and at the same time separated the pines so as to minimize crown friction injury. The quality of white pine as expressed by average knot size was superior in well-stocked mixed pine and hard-wood stands than in pure pine stands.

VERMONT PUBLICATIONS ON WHITE PINE BLISTER RUST.

Anon. White pines threatened by destructive disease. In American Forestry. Vol. 22, No. 275, p. 662-663 Nov. 1916.

The pine blister disease. In American Forestry. v. 22, No. 276, p. 748-750. 1 map, 1 fig. Dec. 1916.

The value of a currant bush. The Rural New Yorker, Vol. 76, p. 958, 1917.

Pine blister disease work progresses. American Forestry, Vol. 23, No. 283, p. 433, July 1917.

Fighting the pine blister disease. American Forestry, Vol. 23, No. 285, p. 562-564. Sept. 1917.

The white pine blister rust. A 4 page colored leaflet. Vermont Dept. of Agri. in Cooperation with the U.S. Dept. of Agri. 1919.

White pine menaced by parasitic fungus. County Agents Magazine 1921.

Blister rust activities in Rutland district. Farm Bureau News - Rutland County, Vt. Feb. 1923.

Bailey, Harold L. White pine blister rust situation in Vermont. In White Pine Blister Rust pub. by Comm. Supp. Pine Blister Rust in N. Am. p. 6-8. Jan. 1918.

The Blister Rust Disease of Currants and Pines. Vt. State Hort. Soc., Ann. Rpt. 16 (1918) pp. 7,8, figs.2 In Experiment Station Record, Vol. 44, No. 1, p. 54, Jan.1921.

The blister rust disease of currants and pines. Annual Report Vermont Hort. Soc. 16 (Proc. 22d. Ann. Meet.) 7-8 1919.

Brigham, E. S. Notice of quarantine on account of white pine blister rust. (Vt.) April 26, 1917.

White pine blister rust control. Agriculture of Vermont Vol. 9, p. 41-43, 1918.

White pine blister rust. Agriculture of Vermont, Vol. 10, p. 7. 1920.

White pine blister rust. Agriculture of Vermont, Vol. 11, p. 6-7, 1922.

Burns, G.P. White pine blister rust. In Vt. Botanical and Bird Clubs, Joint Bul. No. 3, p. 10-11. April 1917.

Detwiler, S.B. The white pine. In Amer. Forestry, Vol. 22, No. 271, p. 391, July 1916.

Status of White pine blister rust control in 1918. Note on status in Vermont on p. 5, Amer. Plant Pest Com. Bulletin 2, 1918.

White pine blister rust control in 1919. Note on status in Vermont, p. 7, of Amer. Plant Pest Com. Bul. 4, 1919.

Hastings, W. G. Report of the State forester and the chief forester, Agriculture of Vt. Vol. 9, p. 84. 1918.

Blister rust. Agriculture of Vermont. Vol. 10, p. 113-116. 1920.

White pine blister rust control. Agriculture of Vermont, Vol. 11, p. 113-117, 1922.

Hawes, A.F. White pine blister rust. Vermont Agriculture Exp. Station Press Bulletin 21, p. 1. July 1909.

Forest nursery stock for distribution in the spring of 1910. Vermont Agriculture Exp. Station Circ. 4, p. 1-4, Jan. 1910.

White pine blister rust. In Second Annual Rpt. Vermont State Forester, p. 8-9, 1910.

The white pine blister rust, or European currant rust (Peridermium strobi). In Vermont Agriculture Exp. Station Bulletin 156, p. 136-138, 1911.

Suppression of white pine blister rust disease. In Fourth Ann. Rpt. Vermont State Forester, p.21-23, 1912.

Inspection of pine plantations for currant rust. In Fifth Annual Rpt. Vermont State Forester, p. 22-24 1913.

White pine blister rust disease, Peridermium strobi. In Seventh Ann. Rpt. Vermont State Forester, p. 40-41, 1915.

White pine blister rust disease. In Eighth Ann. Rpt. Vermont State Forester, p. 22-26, 1916.

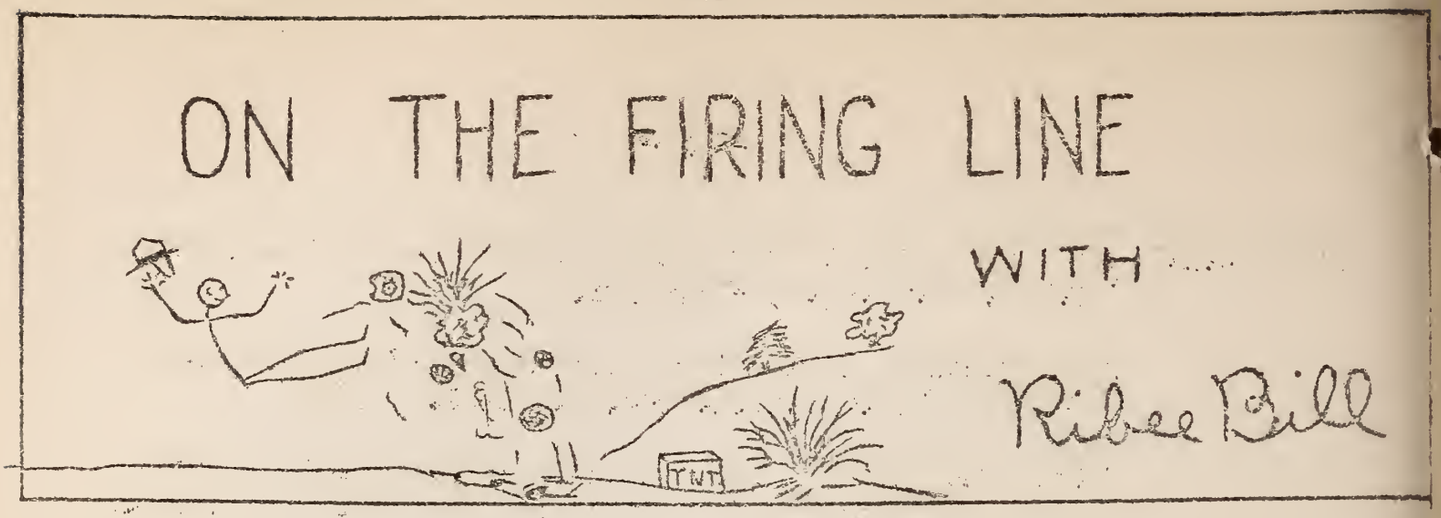
Riley, J.E. The white pine blister rust in Vermont. The Vermonter, Vol. 26, No. 2, p. 30-33, 1921.

The forests a great natural resource to Vermont. The Vermonter, Vol. 27, Nos. 3-4, p. 69-71. 1922.

White pine blister rust control. The Biennial Report of the Commissioner of Forestry of the State of Vermont. 1922-24, P. 42 to 54. 1924.

Spaulding, Perley. New facts concerning the white pine blister rust. U.S. Dept. Agr. Bul. 116, p. 1-8, Jul. 24, 1914.

NOTE: The Office of Blister Rust Control would be glad to be advised of any additions to the literature on the White Pine Blister Rust for the State of Vermont.




The first of May rings up the curtain for the fourth act of the new Blister Rust Control drama. Already in Vermont and New York many a villian Ribes-bush has turned up its toes. In other states as well, the men of the cast are sounding the opening guns of the most intensive and productive field campaign yet, in the control of the disease. You have experience, Agent, and you are fit - now "do your stuff"!

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"No publications available for distribution" is a situation suggesting a service which the Washington Office is capable of giving to the field men. Temporary circulars, or circulars with local application of control, can be mimeographed or multigraphed at Washington. Just send in the copy and state the dimensions and the number of copies desired.

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In the January number of American Forests and Forest Life a picture of a natural forest group of plants was inserted as a puzzle, eleven prizes being offered for the correct identification of the greatest number of plants shown. It is of interest to note that H.C. Ridlon of Bennington, Vermont, who was employed as a blister rust agent in 1917 and 1918 tops the list of winners published in the April number of the magazine; and that Agent Wilbur E. Bradder of St. Johnsbury Center, Vermont, was seventh of the eleven prize-winners. Good work, Bradder!

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

C O N T E N T S - Vol. 9, No. 6

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Plant Industry
Washington, D.C.

THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control,
and the Cooperating States.

Vol. 9, No. 6. NEW YORK NUMBER June 15, 1925.

## TEN COMMANDMENTS FOR A WHITE PINE OWNER.

(1) Cut no promising trees measuring under 10 inches on the stump.

(2) Cut low stumps (12 inches or under); save the best timber.

(3) Leave four bushy-topped seed producing trees on each acre.

(4) Take care not to injure the young timber.

(5) Pull the tops of all cut trees away from the living timber; save it from the fungi and worms.

(6) Keep out fire at all times.

(7) Reforest all idle land.

(8) Get familiar with WHITE PINE BLISTER RUST.

(9) Eradicate all currants and gooseberries within 900 feet of WHITE PINE.

(10) Consult the BLISTER RUST CONTROL AGENT in your district.

B.H. Nichols

Essex County, N.Y.

THIRTEEN MEETINGS.

Only the superstitious believe that the number 13 is unlucky. From April 20th to May 18th the writer attended 13 meetings on forest conservation. White pine blister rust was the most important phase of these meetings with one exception. Before entering into a discussion of blister rust and its control, people were told about the forestry situation in our country, why we should practice forest conservation, why we are trying to protect the white pine and make it possible to grow future crops of white pine, what plant pests are, where they come from, why we must fight them, what are forest tree pests, where blister rust came from, how and when it got into our country, the nature of this disease and what it will do, how it can be controlled and how the State and Government stands ready to help owners save their white pine. The time taken to do all of this was not less than one hour. Then there were 4 reels of motion pictures, 3 of which were on blister rust and forest conservation. The total time for these meetings was usually 2 hours. Too long, you may say. Perhaps, yet the audiences were eager to stand for them and on more than one occasion we were told to "come again and we will fill this hall until there will be no standing room". With one exception the blister rust control agents organized these meetings somewhat along the line outlined by Stevens. The average attendance was over 100 per meeting. With the exception of the meeting in Brooklyn, N.Y., they were in small communities and were held in school houses, grange halls and churches. Wherever possible, a local man was chosen to preside. At one of the meetings held in a church, the pastor presided. He had the audience sing America and then he made a very brief and effective talk on the importance of forest conservation and blister rust control. This seemed to put the audience in the right frame of mind for the message of the evening and the meeting proved to be one of the best that the writer has ever attended.

The agent had fresh specimens of blister rust cankers in full bloom. In most cases he was at the door and brought the disease immediately to the attention of the people as they entered. He was there again when the meeting was over. In some of the meetings the agent was busy talking with the people before and after the meeting. In others the agent stood and waited for the people to come to him and few came. (poor policy) The writer did the same thing on some occasions to see what the people would do. You have to go to them. They will give attention if you mean business.

On some occasions it was necessary to inform the youngsters that if they expected to remain in the room they had to keep quiet. It was evident that many people appreciated seeing and hearing a person from the Albany office. Some people who were skeptical about blister rust were ready to talk blister rust control after the meetings. The writer met personally a few hundred people. He knows some of their problems and has a better understanding of what the agents are up against. He has a keener interest in these people and a deeper respect for them. They in turn have a greater belief in the worthwhileness of blister rust control and more confidence in the men who are in charge of this work. The agents also had a chance to demonstrate that they are human and know what they are about.

There were youngsters there (future citizens) and even grown-ups who had never seen motion pictures. What an impression these pictures must have made on their minds. Then most of the people present had never seen blister rust. Repeatedly remarks like the following were heard - "Why I did not realize that most of our plant pests came from foreign lands." "I never understood or even saw blister rust." "I did not realize that we have a serious timber shortage in our country." "We had not thought about timber being so necessary for our national security." "I did not know that white pine is going to be more valuable in the future." "I thought my worn out land would not grow trees", etc.

This is not all but enough has been said to show that the people had been given something to think about and that they will not forget.

Meetings are excellent places to meet people. They are, if conducted properly, one of the best avenues for education. As State Leaders, it is up to us to attend such meetings as much as possible and our presence not only encourages the blister rust control agent but serves to give us direct contact with the public. Blister rust meetings will either advance our work or they will impede it. A meeting full of pep, and you must be the fountain for it, will produce immeasurable results for the good of our work and forest conservation.

H. H. York.

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NOTES FROM MAINE.

A card from W. O. Frost, June 10, states that through the cooperation of County Agricultural Agent Donahue, an infection has been found in a two-acre 11-year old white pine plantation.

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An examination for white pine blister rust was made on a twelve-acre island in Belgrade Lakes and the whole island was found covered with skunk currants.

Edit: How about it, W.O.? How would you estimate the cost of clearing up the skunks on this island?

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Agent Kimball reports a mixed plantation of white pine, red pine and pitch pine at the Tripp Lake Camp for Girls, in the town of Poland. While nothing is mentioned about finding blister rust, Mr. Kimball reports finding trunk infections of the pitch pine rust. - - - Boy, page Dr. Spaulding!

BLISTER RUST ERADICATION WORK IN NEW HAMPSHIRE AS SEEN BY ONE WHO WORKED ON IT DURING SEASON OF 1924.

My town, Pittsfield, voted a large appropriation, $2,000.00 at the 1924 March town meeting, for the eradication of the currant and gooseberry bushes within its limits (in cooperation with the State Forestry Department and the Bureau of Plant Industry, U. S. Department of Agriculture.) The purpose of this work was the control of the White Pine Blister Rust, which is doing so much damage to our white pine growth. The selectmen of the town appointed me Town Inspector to represent Pittsfield to see that our town got its money's worth.

In order that there may not be any misunderstanding in regard to the manner in which the money was spent in 1924, I want to say that the men were on the job every hour they got paid for and that they worked when there. If anyone thinks it is easily earned money my only answer is that they go out and work at it for a week. They surely will change their minds, especially if Martin Connelly is foreman.

A total of 7,533 acres of land were covered in Pittsfield in 1924; 249,363 currant and gooseberry bushes were destroyed. We kept count of about 3,000 infected pine, but in some of the areas we did not try to count them as there were so many.

I am more convinced than ever that Blister Rust is a very serious disease. If we have any interest in the property value of our town, we most certainly should see that the currant and gooseberry bushes are destroyed at our earliest opportunity.

I could see a great change in some of our pine lots through the season of 1924. If the citizens of Pittsfield would take interest enough to look at some of the infected areas in the Spring and then look at them again in six months they would be greatly surprised in the change.

Friends, let us try to save the pines that the proceeds may educate many a girl and boy, or take care of many a mother and father in their declining years, as has been done before.

Signed,

Frank T. Garland, Town Inspector,
Appointed by the Selectmen of
Pittsfield, N. H.

Merrimack County Farmers Bulletin, (N.H.) for March 1925.

Note: This is the finest kind of tribute; the word of the man who was watching the town's money being spent. Did you notice that the Blister Rust Control Agent does not even appear in the article. Good work, T.J.K., Keep it up ! !

A Result of Posters Placed in R.R. Stations

Black River, N. Y., May 7, 1925.

Conservation Commission
Albany, N. Y.,

Dear Sirs:-

There are several trees in grove near Calcium known as P. E. Jewett's woods which look like white pine blister rust. I learned the indications from a NYC poster which is in our office at Roots, a small block office on St. Lawrence division NYC R.R. 1800 ft. east of Calcium where I pass every day. There are a number of large pines in grove nearby so thought it too bad to see these go to waste. I am a great lover of nature and thought it only my duty to notify you.

Very truly yours,

S. H. Elridge.

DYNAMICS VS. STATICS

There was a time in the history of Blister Rust in New York when it seemed to some of those connected with the work that in many directions we could glimpse evidences of the immovable body often heard from in the realm of Physics. I believe that in some cases we hypnotized ourselves into believing that there was such a thing. We magnified the occasional skeptic into an army of unbelievers. Instead of forgetting a failure we had in the forenoon and gaining a couple of successes in the afternoon to offset it, we acknowledged ourselves vanquished and let it "spile our hull day".

To one who has periodically severed connections with the work and then gathered them up again year by year, the change between that day and the present is doubly manifest. First there has occurred a change in the personnel as well as the morale of the force. Well trained, energetic young men are carrying on where the hard working, but ofttimes inadequate Ribes eradicator left off. They have injected the spirit of never say die. No longer are we admitting the immovable body. We rather look upon ourselves as an irresistible force which is everywhere gathering momentum and gradually reducing that body to an atom.

Paralleling this change on the part of the workers, is a reflected change on the part of the people. A new attitude is developing which bodes well for the future. Unsolicited invitations to speak at farmers' gatherings come to us now where not long ago our request was denied; urgent requests and offers of free space at fairs have supplanted a refusal of space; and interested and convinced throngs have taken the place of many of our skeptics. An adequate amount of gray matter, coupled with high enthusiasm, honest effort, disregard of union hours, and an unbeatable will to win, are compelling a new respect and spirit of cooperation on the part of the pine owning population.

One of the interesting evidences of this change in attitude is evidenced at the village grocery. Our old acquaintance, that short-sighted, non-pine-owning, truth defying, cracker barrel pest who oft loved to repeat his old, "there ain't nothin' in it", crack, has found upon cleaning his specs that his erstwhile companions have sneaked out behind the barn into the old pine lot and are very industriously engaged in uprooting the old family "Ribes". Which proves that sound facts, coupled with a good wholesome enthusiasm overcomes opposition and gets results.

Change? I should say! And we have but started. Last year's record proves it. A few more good loud thuds on the mat and we're going to have a harvest of requests for eradication from small pine owners that will make our bunch look like an army of one-armed paper hangers.

B. N. Prentice, New York.

Note: This is the sort of spirit that gets results. - J.F.M.

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## CURTIS HOLDS A FIELD MEET.

On June tenth, Agent D. S. Curtis held an all-day field meeting on eradication and damage with the agricultural class at Rumford, Maine, and the teacher, Mr. Harry Brown. There were twenty-two pupils present.

Curtis says "We had a wonderful day, lunch in the field, discussions, and also eradicated about 15 acres of gooseberries and skunk currants. It was well worth the time."

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## HAVE YOU A RIBES HERBARIUM?

Mr. L. W. Hodgkins, a recent visitor at the Washington Office, told the Editor that he considered a good collection of Ribes a very desirable adjunct to the Agent's equipment, if not an absolute necessity. "Not only should the collection contain pressed specimens of all the various kinds of wild and cultivated currants and gooseberries growing in the District," said Mr. Hodgkins, "but the Agent should have a collection of the plants which resemble them and which the crew men might mistake for Ribes."

Mr. Hodgkins illustrated the desirability of knowing these Ribes-like plants by an experience of his a summer or two ago. While riding through the County with a cooperator, they came to the cooperator's lot. Let Hodgkins carry on as he told it to me:

Owner: "Say! some of your men have been doing a poor eradication job on my land. That swamp over there is just full of currants and the foreman said he'd finished the job too."

Hodgkins: (knowing that the crew and foreman had been well trained in identifying not only all kinds of Ribes, but the plants that looked like Ribes was skeptical, but said) - "Let's go right over there and take a look at those currants; - that's part of my job to see that the boys get 'em all out."

Over the fence we went, and down into that swamp until we came to a group of large bushes.

Owner: "There! look at that clump of big bushes. They never worked in here, I'll bet you."

Hodgkins: "Sure they worked here. Look at the skunk currants hung

up in the trees, but those big bushes - they're not currants, they are highbush cranberries, belonging to the Viburnums, not Ribes."

Owner: "I'll take off my hat to that crew. I see they know their business pretty well, and the wild plants too."

R.G.P.

## SANDS OF TIME

There was a time when I was young,
And always full of play;
And with my fishing-rod or gun,
Would hie myself away:

To enjoy the gifts of nature,
That for me she held in store;
And in meadows, fields, and woodlands,
I have found a bountiful store.

But things have changed a bit for me,
Which I will here relate;
For I am now in Kansas City,
Working for the United States.

'Tis plant quarantine inspection,
To prevent the spread of Blister Rust;
And regardless of the hours per day,
We must stop it here or bust.

Seven days per week I work,
From morning until late;
And if the hours you should count,
The days would be full eight:

Eight days per week you say,
Tell me how that may be?
Oh! I am working for Uncle Sam,
Under the directions of S.B.D.

March 20, 1925 L. W. Hodgkins

## BLISTER RUST CONTROL PROCEEDING AT "FULL SPEED AHEAD" IN THE NORTHEASTERN STATES

Mr. K. K. Stimson of the Boston Office has furnished an up-to-date summary showing the approximate number of Ribes Eradication Crews and Scounts on control work, as of May 30, 1925.

| State | No. Crews | No. Scouts |
|---|---|---|
| Maine | 14 | 11 |
| N. H. | * 15 | * 13 |
| Vt. | 7 | 0 |
| Mass. | 9 | 9 |
| R. I. | 0 | 4 |
| Conn. | 1 | 0 |
| N. Y. | 17 | 3 |
| Totals | 63 | 40 |

At an average of 6 men to a crew, and counting scounts there would be a total of 418 men actively engaged in Ribes eradication in the 7 northeastern states.

*Estimated.

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## WHITE PINE BLISTER RUST CONTROL IN VERMONT.

In order to secure protection from Blister Rust to our White Pine forests, currants and gooseberries are again being pulled up, root and branch, as fast as our crews can pull them. Two crews are employed in each of the three regular districts (St. Johnsbury, White River Junction, and Brattleboro) in addition to a crew working in the State at large.

Since the leaves come out on the bushes before any other vegetation becomes green, spring is the very best time to get them out. Of course, they can be and are pulled as long as the leaves stay on, but why put off until tomorrow what can be done today?

Even if you're not in one of the above districts, you can still take advantage of State and Federal aid, for the crew working in the State at large is available to do work for you within a reasonable time after your request is received.

From Green Mountain State Forest News for June 1925.

## BLACK CURRANT ERADICATION STARTS IN TEHAMA COUNTY, CALIF.

The 1925 field season in white pine blister rust control started in Tehama County, June 1. Mr. Geo. A. Root, Asst. Pathologist and E. L. Reeves, recently appointed Field Assistant in the Office of Blister Rust Control arrived in Red Bluff several days ago. They are now scouting the county for the location and removal of cultivated black currants. Although this section is not conducive to the propagation of currants and gooseberries, a few plantings of black currants will undoubtedly be found. With the completion of Tehama County, work will be started in Plumas County, and then continue in those counties south in the Sierra range.

Mr. V. L. Harper, also newly appointed a Field Assistant, has been assigned to work with H. S. Paddock in Sonoma and Mendocino counties. These two counties will soon be completed, at which time these two men will start work in Lake County.

From Weekly News Letter, Calif. Dept. of Agriculture.

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## THE WHITE PINE WEEVIL

One of the more serious insect enemies of the forest is the White Pine Weevil, which does considerable damage to white pine. This little insect deposits its eggs during the fore-summer in the new upright growth known as the terminal leader. These little eggs hatch into small white grubs or larvae in which stage the insect passes the winter in the shoot. The grub eats and bores its way about near the base of the present year's growth eventually killing it. Sometimes it works in the past years growth in addition. One of the more vigorous lateral branches responds and makes the upright growth. As a result there is a crook in the tree or its growth has been retarded a year. Occasionally two or more branches may make the uprights resulting in a forked growth. Many of the crooks in the old pines may be ascribed to this insect.

The infested shoots should be cut out and burned during the winter or early spring.

Extract from the Green Mountain State Forest News for June 1925.

## BLISTER RUST CONDITIONS IN FRANKLIN COUNTY, MASSACHUSETTS.

Blister rust is generally distributed here and there throughout the white pine bearing sections of the county. In some pine areas there is only a single infected tree, while in others, there is a light and scattered infection. In one small area 12.2% of the young pine nearest the Ribes were found to be diseased with blister rust. Ten towns were visited and inspections made. Blister rust was found in eight of the towns. One of the towns where no rust was found has very little pine. I believe when a more extensive search is made in these towns blister rust will be found present. It had previously been located in two of the towns worked. The disease was found in six of the towns for the first time. These towns are Erving, Buckland, Hawley, Colrain, Deerfield, and Conway. A very small per cent of the total area of the towns worked was covered. In some cases only enough area was scouted to get a general idea of the distribution of pine and the prevalence of blister rust.

In the town of Shelburn the rust was found in eight places and in practically all parts of the town; north, east, south, and west. No place was found that could be termed a center of infection, although much area was covered with this point in view. The oldest canker found was located in this town and was of 1917 origin. This may explain the reason why there was more disease in this town than in the bordering towns. 124 diseased pines were recorded in the town of Shelburn and the total for all towns was 249. This is partially due to the fact that more time was spent in Shelburn than in any of the other towns. The disease

was found in a total of 18 places for all towns.

There are several good stands of white pine reproduction in the towns of Shelburn, Charlemont, and Northfield. Scattered stands that are well worth protecting occur in all of the other towns. Many cases were noted where young white pine and wild gooseberry bushes stand in close proximity, however, the latter were not numerous. Many instances were also noted where young white pine were coming in under hardwoods. Protection of the pine will be comparatively unburdensome to the owner due to scarcity of wild Ribes. Although no special effort was made to determine Ribes conditions in general, special attention was paid to areas growing white pine, particularly those where infections were found.

Taking the whole situation and conditions into consideration it would seem that blister rust has been in this vicinity a comparatively short time. However, the disease is established and damage to pine is sure to increase in unprotected areas.

The inspections were made by G. S. Doore, blister rust agent in Franklin County and L. W. Hodgkins, general agent.

L.W.H. - Jan. 5, 1925.

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The New York Agents have obtained good results from meetings, and the use of mimeographed circulars. Dr. York is planning to get out a new colored bulletin as soon after July first as possible.

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CHECKING.

There is a system of checking practiced in New York and doubtless in all states where eradication is being carried on that is not a part of the blister rust control organization. About two weeks ago, one agent requested the writer to interview a farmer of French descent, relative to blister rust control. The writer was given no information about this man and he did not ask for any.

The farmer received the writer very cordially and finally an inspection of the white pine woodlot was made. When blister rust was discovered it was pointed out to the owner. He replied in an apparently astonished manner - . "Is that blister rust?" The writer then explained blister rust very carefully to this man. He was attentive as could be. After about a half hour's discussion the old gentleman remarked in a satisfied tone, "Well that's what Ben Nichols said." Then I realized he was checking and fortunately what the writer had said tallied with what Mr. Nichols had told him. This sort of checking was not new, for the writer knows of numerous instances where it has been done. The most important point with us is it is going to be done more and more in the future. Have you thought how vital it is for the success of blister rust control work that every man in our organization, even the crew men, be so trained that they know the essential facts of blister rust and be able to talk fluently and tell the same facts about this disease and its control. If our presentments of blister rust facts to the people whom we meet, fail to jibe, then an almost irreparable harm is done. These people are keen checkers; in the communities where we work they are checking on us every day and we are not always by any means aware when this is being done. Wherever our work meets this test, we need not worry about the fruits of our labor.

H. H. York.

## HOW AN AGENT SHOULD TAKE OVER A NEW DISTRICT.

From Experience, by Geo. E. Stevens, Agent.

Since I've been in Blister Rust Control I've never seen an outline of procedure for an agent to follow who is going into a new district. I wonder if such an outline could be worked out so that our experiences could be transmitted to new men for their benefit.

The two years I spent in Vermont taught me how to facilitate interviews, approach pine owners and secure cooperation; I learned that it was wrong to talk blister rust the first thing to people who had never heard of it before; that it was foolish to think a man should cooperate at the end of the first interview. I learned that every man has a right to his opinion; a right to think and feel toward our work just the same as we feel toward theirs. So when I left Vermont to come into New York, I was going into a new district to meet new people etc., but with previous training back of me.

Taking over this District at Lowville, New York was, by no means, an easy job; the Agents before me had failed to keep up their records. This meant duplication of interviews, inspections, etc., as well as meeting people who had been interviewed before and would, when approached again, be skeptical. (Owners lose faith in the work when too many different ones interview them, especially the continuing change of personnel.)

I arrived at Lowville on May 27, 1924, just after the eradication season had started. My first day in the office proved that it was up to me to get something started, to get acquainted on my own hook, to get established and do it soon. The following day I wrote out an article for the local papers that was printed in the next issue of the weeklies. Both papers printed the article giving me space on the front page with big headlines and a whole column at that. In the office, I found a list of plantation owners (furnished by the Conserva-

tion Commission) and so I got busy writing letters to them. By the end of the week letters requesting inspections came to me. While I was waiting for replies to come in, I sent out under franked mail, "Save the Pine" posters to the various post offices in the County. Then as the replies came in, I began following up the letters with personal interviews and inspections. The letters paved the way for the interviews and made the approach easy. The article in the paper informed the people in general what was going on and the posters in the village stores and post offices called the attention of the pine owners to blister rust, so when I followed up the letters or made other calls, people were in a receptive mood. Now I don't say that everyone, or all cooperated, but I do say that everyone was interested.

Incidental to travel, I tacked up the blister rust posters in conspicuous places, not too many but just enough to keep the subject before the people.

As people cooperated, I saw to it that their names got into the local news items, sometimes a lengthy article if the owner was well known and owned considerable land, or just a small item in the "Localletts". All this helped to spread information about blister rust control and make me acquainted in the district, so that today it is just a matter of regular routine to write letters, make follow-up calls, interviews and inspections, and finally do the control work.

In summing up, therefore, my advice to new men in the field, or to anyone going into a new district would be: First - Take a few days to look about the district, get acquainted with the roads and get some idea where the bulk of the pine lies. I would refrain from making any interviews with pine owners until I've at least started some educational work.

Second: Get an article in the newspapers telling how you have taken over the district etc., and that you are there to help pine owners protect white pine from blister rust.

Third: Endeavor to get a list of all or some of the pine owners in the district. This can be gotten from the State Forestry Department (plantations), from the Farm Bureau Office, Tax Assessor's Office, or from some other source. Then write letters to these owners and put in a note asking them to send you the names of other pine owners in their locality.

Fourth: While waiting for replies, send out posters to post offices, etc., tack up a number about the district, and find and study a pine lot or two with blister rust on Ribes or pine to use as a demonstration when you commence your interviews.

Fifth: As the pine owners write in, arrange to interview them and inspect their pine crops. As each one cooperates, put an article in the local papers about it. After this you will be gradually meeting people, winning their confidence, getting names of more pine owners, learning the district thoroughly, making friends and after a while, the work will automatically progress and spread out. Later will come exhibits at fairs, meetings, motion pictures etc., all a part of the regular routine when once established. But the big secret of blister rust control is getting started. It's like the first dollar saved. After that it's easy.

Note: This is a good article, Stevens. J.F.M.

RE-ERADICATION IN NEW HAMPSHIRE.

The towns of Hampton, Exeter and New Market appropriated funds for re-eradication of Ribes this season. All of these towns are in Rockingham County, where Agent K. E. Barraclough holds forth.

## SEVERE INFECTIONS IN MAINE REQUIRE IMMEDIATE ATTENTION.

On trips to Bangor and Bar Harbor last week-end I was surprised to find Blister Rust on Mount Desert Island in the vicinity of Bar Harbor. I wonder if it has ever been found there before. In going from Bangor down the river there appears to be very little pine until Mount Desert is reached. Spruce, fir, and cedar show mostly from the roads. On the island, pine lots are quite frequent. The first three pines which I looked at were infected, and after that I noticed other infections in passing along the roads. In a place like that where the scenic beauty is of such great value, it seems to me that blister rust control should meet with hearty cooperation.

From observations made in York County this spring by the scouts and myself, I am convinced that the amount of damage from blister rust is increasing by leaps and bounds. It is not so much the large infections; although they are extremely common, but we are finding an immense number of young infections from three to five years old. I feel that no statement regarding the possible damage from blister rust can be too strong or sweeping. I believe that some of these large areas of land will never grow pine again unless owners or the state take immediate steps to remove Ribes.

E. E. Harbox.

## PARTIAL LIST OF PLANTS RESEMBLING THE RIBES OF THE EASTERN STATES.

The Blister Rust News for March 15, 1925, made a beginning on listing these Ribes-like plants or plants with leaves resembling Ribes. Five plants were listed at that time, namely:

Acer rubrum - red maple, having opposite leaves.

Rubus odoratus - purple flowering raspberry. ) leaves soft and fuzzy
Rubus parviflorus, - salmon berry or thimble berry) with hairy petioles.

Viburnum acerifolium - maple-leaved arrow-wood.)
Viburnum americanum - high-bush cranberry ) having opposite leaves.

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Prof. J. Franklin Collins of the Office of Forest Pathology, stationed at Brown University, has recently made a distinct contribution to this list which is here given:-

Herbaceous plants - without woody stems. Leaves generally basal; unlike Ribes in both these characters.

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| Ranunculus - | Particularly the basal leaves of R. acris, - the tall or meadow buttercup; and R. recurvatus. Foir. - the hooked crowfoot. |
| Anemone - | Basal leaves of A. cylindrica A. Gray, - the long fruited anemone, and A. virginiana L. - the tall anemone. |
| Tiarella cordifolia L. | The coolwort or false mitrewort; particularly basal and juvenile leaves. |
| Heuchera americana L. | Alum-root, particularly basal and juvenile leaves. |
| Mitella diphylla L. | The two-leaved Bishop's cap or Mitrewort, particularly basal and juvenile leaves. |
| Malvaceae - | The Mallow family, particularly M. sylvestris L. high mallow; and Malva alcea European mallow. |

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| Sanicula - | Snakeroot, basal leaves or those of young or sterile plants. |
| Leonurus cardiaca - L. | Motherwort, leaves of the copious basal shoots quite commonly resemble Ribes leaves, unless one knows taxonomy pretty well. Has opposite leaves which should distinguish species readily from Ribes. |

Woody plants and trees:-

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|---|---|
| Platanus occidentalis L. | Sycamore, button ball or plane tree; particularly the young and half grown leaves of sprouts or seedlings. Leaf palmately veined, lobes shorter than broad, coarsely toothed or entire. |
| Crataegus - | Particularly C. oxyacantha L., hawthorn, white or May thorn, a shrub or tree; also some closely related species of Crataegus. Leaf has single mid-rib, distinguishing it from palmately veined leaves of Ribes. |

"Of course some of the above have opposite leaves and have either stem or leaf characters that might readily separate them. The suggestions above are based primarily on the general shape of the leaf."

Note: Good illustrations of these plants may be found in the Illustrated Flora of the Northern States and Canada, by Britton and Brown (3 volumes).

R. G. Pierce.

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## ONE MONTH'S WORK OF STATE LEADER IN VERMONT.

This included giving a combination blister rust Motion Picture and Lantern Slide talk at Roxbury, Vermont, on May 12. Other blister rust work for the month of May included such a variety as inspecting pine lands, putting a foreman on an eradication job and subsequently checking the work, collecting specimens, preparing a window exhibit, interviewing and getting cooperation of pine owners, and delivering a talk before a community gathering, besides general correspondence and routine office work.

BELIEVE IN YOUR WORK.

We just had a red hot primary down our way. The bunch supporting the opposing candidate had a most hair-raising way of slipping us information on the "sure-death scandal" that was in circulation about our man. You know how it goes.

Finally we fellows got so nervous that we had a meeting to see what we should do about it. At that meeting it developed that they were just trying to make us believe these stories about our own candidate. Continued listening for these stories among our best people revealed a most illuminating silence. But if those fellows could just have succeeded in getting us to believe in the meagre chances of our man they would have had us licked in a hurry. On the contrary we simply ignored their scandal, went out and worked our heads off, and nominated our man by a nice majority. They could have given us a closer race if they had put more effort on the people and less on us.

Did any of you agents never meet the man who would belittle your work? I have often felt that the most dangerous man is the one who would leave me with a lowered estimate of the value of my own stock in trade. If he can do that he has not only beaten me in his own case but in the case of every man I meet thereafter.

So don't any of you let any man flim flam you into believing that you are licked because you fail to get expected cooperation, or for any other reason for that matter. Work all the harder to get two cooperators where the one you depended on fell down completely. I know how that sort of thing takes the wind out of a fellow's sails. But isn't it enough fun to make up when you land that hitherto undiscovered cooperation in another quarter? Remember that you are firmly entrenched and sustained by the cumulative evidence of research and satisfied cooperators without number. Keep that in mind and don't let anyone jar it loose.

B. N. Prentice, New York.

Spring Meetings.

The writer has attended blister rust meetings every month in the year but the best season of all is in the spring when the cankers are in full bloom. A blister rust canker with aecia is far more impressive than one without. People who would not look at blister rust cankers were deeply impressed when they saw them at our spring meetings.

The number of requests by owners for inspection of their white pine woodlots at our spring meetings, far exceed those received at fall and winter meetings. It is a splendid plan to have a window exhibit immediately following the meeting. We believe it will attract more attention than if placed at some other time.

H. H. York

A letter from Mr. H. J. Ninman, St. Paul, Minnesota, states that from May 18 to May 31 he was working at putting up signs in order to persuade tourists and others from carrying trees and plants in autos. These signs were placed on the main trunk highways.

Mr. Ninman is now continuing the summarizing of the Eau Galle data and is cooperating with Mr. Wm. C. Thompson.

EDUCATION BEGINS AT HOME IN NEW YORK.

No man can tell others more than he knows himself. Those who try usually get into awkward situations. With this thought in mind it was decided that those who were to go out on blister rust work should first learn about blister rust thoroughly. This was not meant to indicate any specific lack of knowledge on the part of the personnel but was intended to make clear the proposition that talking blister rust involves something more than the use of a few catch-phrases.

There have been blister rust schools before; and the idea of giving intensive training to workers, or prospective workers, in this line is not a new one. The only virtue, if there is any, in the program outlined here is in certain details of its working out. The main objective is increased results, i.e., more pine better protected at less cost. The achievement of that objective is the only excuse for the expenditure of sorely needed funds in this indirect fashion.

A summary of practical results shows that the past year's program has justified itself. More pine has been protected, by a large percentage. It has been protected more cheaply by a considerable figure. And systematic checks in the field make evident that it has been protected well.

Now as to the program itself. Keeping still in mind the main objective, it will be seen that there must be a triple, or at least, a double line of attack. To get more pine protected - that is a "talk" job. It falls mainly upon the agent, although every person in the organization is a greater or lesser factor in it; to tell the truth about white pine blister rust convincingly is the barrage which necessarily precedes the ground attack. To protect pine adequately, and at reasonable cost - that is a "sweat" and "head" job in one. It calls for a trained and resourceful type of foreman, and for a system of supervision and coordination such as has been developed under the Assistant in Eradication.

The training has been of two kinds: one in the woods at North Hudson; the other around the conference table at Albany. At North Hudson, consideration is given primarily to the foremen and eradication methods; at Albany, to the agents and the more general aspects of the work. Agents and foremen received both types of training since the functions of the two groups overlap. The agent needs to keep in close touch with the actual eradication work, since he is responsible for the work done in his district; and the field men need to know something about the work besides pulling bushes.

The foreman, of course, can hardly be expected to have the same interest in all phases of the work as the agent. It is no great matter if he is not acquainted with details of morphology or the principles of educational work. But it may be of infinite harm if he is carrying around with him, like a loaded shotgun, some fundamentally wrong notion as to the nature or relationships of the disease which he is helping to control. The foreman, no less than the agent has a circle of influence. First he educates his crew, then his family and acquaintances in the home town - not consciously or deliberately, but naturally, casually, in the course of everyday talk. Each one who thus becomes a center of information (or misinformation) is like the proverbial stone cast into the mill-pond. And where so many stones are being cast, it stands to reason that unless they all hit somewhere near the same mark there will result a very remarkable confusion in the public mind.

Last year, training at North Hudson was given in three sections. First came the agents, then the experienced foremen, then the new foremen. The agent's week was the period of experiment. Two or three crews were formed, and everybody had his turn as foreman. This gave each one a chance to try out his own ideas on crew management. Between shifts, and later at noon and at the end of the day, the various points in eradication technique were thrashed out.

Then there were general conferences at camp, presided over by Dr. York, and field sessions in charge of Mr. Amadon, for the discussion and demonstration of checking methods, scouting, marking boundaries, and surveying areas - matters of particular interest in connection with the newly organized work of the Assistant in Eradication. The residue of this whole process was the material on which was based the training of the foremen in the two weeks which followed.

The training did several things. It created a certain amount of fellowship in the organization - as every get-together in the woods does. It gave an opportunity to pool ideas, and to get at some of the facts and principles in control. And it set certain standards of working methods with which every man who was to have responsibility during the coming season could become acquainted. It is hard to say which of these was the greatest asset in carrying on the work last year. They were all valuable. In general, it can be said, the effect was to combine the different elements of the work, to direct scattered energies into a single channel, and to set them all moving in the same direction and toward the same end.

In contrast to the North Hudson training was the indoor training for four days at Albany, last April. This dealt, not with any special feature of control, but mainly with the disease itself, and the biology of the organism concerned. On the first three days, Dr. York took up successively, white pine, Cronartium ribicola, and Ribes. On the last day the meeting was addressed by Mr. Graham of the Extension Service.

It has been intimated above that the first requisite for a blister rust worker is to know blister rust - and that means more than knowing that it travels from pine to Ribes and back to pine again. Furthermore, knowledge (working knowledge) means more than an accumulation of facts in a man's head. To be a driving force, it must comprise a certain grasp of the subject, both in its en-

tirety and in its minute detail, by means of which one person is able to impart his convictions and enthusiasms to another. No one is quicker to detect shaky information or weak enthusiasm than the average pine owner. Before you've been with him five minutes, he will know whether you're out there because you've got a job, or whether you're out there in the interest of forest conservation.

There are two ways of presenting the facts of a given subject. One is the dogmatic way: such and such things are so as per such and such authorities. That is the easy way and it's hard for those who listen. The other is the personal or human way, by which knowledge becomes a plastic and living thing. In dealing with the life history of Cronartium ribicola, Dr. York gave concrete illustrations from his own and others' experience, to show how the data had been derived, step by step, through many and painstaking experiments; how certain facts in regard to the life history became definitely established, how others were discarded. Of course, we did not expect to absorb all this material on the spot but we got a certain background of comprehension upon which to construct more substantially in future study. The fact that there are fifteen hundred spores (more or less!) in a telial column, or that the mycelium in the Ribes leaf is bi-nucleate - these things in themselves may never help much, but it is the sum total of such detailed knowledge, that sends one out clothed, so to speak, in battle armor - the only armor that is going to protect his self-confidence from prejudice, lack of blister rust knowledge, and unscientific reasoning that he will meet in the course of a week's work.

After three days of pretty solid mental food, we were in need of just the sort of tonic that we found in that most stimulating and refreshing message imparted to us in Mr. Graham's talk. One thing we learned above the rest: - that this matter of personal contacts is to be considered, not simply as a part of business, nor yet as a hit-or-miss affair, but rather as a fine art, whose

precepts must be observed by him who would look for success, whether in blister rust or anything else.

These are a few of the high lights in the training we received, which was felt to be a success by every one there. It had its dull spots, but as a whole it was both worth while and inspiring. Still more, it emphasized the function which no blister rust worker can afford to neglect -- the constant sharpening of the tools with which he works.

E. W. Littlefield,
Assistant Forest Pathologist.

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Mr. W. J. Endersbee will take over the blister rust control work in Berkshire County, Massachusetts, on July 1. His address will be 81 Graves St., Great Barrington. Good luck to you, Bill!

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A new infection area of interest has been discovered in New Hampshire, namely that at Wentworth in Grafton County. Mr. E. C. Filler under date of May 29 writes - - I understand this infection area spreads over about 200 to 300 acres; the trees being mostly from 15 to 30 years old. Mr. L. E. Newman has already sent a summary of a study he made on this area. He mentioned that the trees were so thick it would be difficult to get any damage pictures in this section.

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Mr. Alfred E. Fivaz left Washington, June 3, after writing up his office report on the North Hudson Experimental area in New York.

## MR. A. B. GRAHAM ADDRESSES THE NEW YORK BLISTER RUST CONTROL AGENTS.

Mr. A. B. Graham, in Charge of the Office of Subject-Matter Specialists participated in the program on April 16, of the White Pine Blister Rust Control men and Eastern New York County Agents, at Albany, New York. His talk covered the following subjects:

How to Bring About the Adoption of a Practice - His first thought was that no person is brought to the point of being interested in doing anything unless he is made to feel right about it.

The discussion was presented along the following lines:
First, that of appealing to the individual's personal welfare, especially securing to him greater probabilities of life, and also to make provision for the better living conditions of his offspring.

This appeal can be made by showing the grower of white pine that he is lessening his chances for making a living by permitting the death of his white pine forests from attacks of the blister rust; that he is rendering more difficult the making of a living for his offspring by not protecting young pines from such attacks; that his purchasing power for any of the comforts of life is increased by protecting so valuable a lumber as may be produced from the white pine; that the better education of his children and the better support of his churches, and all public welfare organizations, is dependent upon the protection of natural resources.

Second, appealing to his pride - egotistic nature. This could be done by showing how his standing among men would be elevated by accepting a method which science had worked out as a protective measure. There seems to be a personal pride in doing the thing that is scientific. This is brought out

in a great many business advertisements. If he is among the first to be appealed to, then priority in accepting any advanced step is a matter the individual sometimes prides himself in.

Third, the economic, or saving, or hoarding nature can be appealed to because of the savings which he may make financially, or his inclination to accumulate for a later day, just as one would in having life insurance or similar lines. He likes to think of the bank account, so he should think of his growing forest as a bank accumulation which he can check on or realize something from at any time of need. Even though there may be a loss of the domestic gooseberry, he could buy many times over the small quantity of gooseberries raised at home from the increased growth in his white pine. Therefore the loss of such bushes should not stand in the way of caring for pines.

Fourth. The last one is perhaps as strong as any other, if not urged too rapidly - that of imitation. The tendency to imitate is so strong in all of us that we find ourselves unconsciously doing the thing which we find others, whose judgment we respect, are doing. If the most influential persons can be induced by one appeal or another to take measures to protect white pine from blister rust, then others will do the same if sufficient publicity is given to the acts of the right kind of leading citizens. The second talk was on

Approaches - This was an extemporaneous talk, brought about by many of the agents saying that their greatest difficulty was in approaching a man. The first thought was that no man need necessarily be told in the first sentence or two what a person's business is; that almost everyone is willing to make some remark about the weather, conditions of crops, and then the conversation usually turns to some immediate common experience or observation.

It may be something that has been seen on the farm or neighboring farms, something on the roadside, or something of common interest read in recent newspapers.

Nothing in the introductory talk should give an indication of pessimism, but always of optimism, and nothing whatever said to provoke an argument where we may find one person pitted against another. Such experiences have the effect of prejudicing the mind that we want to approach.

Second. One should train himself to see something good either along the roadway or on the man's farm, around his house, or at the barn, that will bear a slight word of comment. It is not necessary to bubble over with platitudinous remarks and complimentary suggestions, which are easily sensed to be insincere. The growth of white pine may be an object of comment in that conversation, and may lead toward the subject of blister rust control.

Third. One should practice something of the art of judging human nature, even from its externalities. Tone of voice, uncouth appearance, fault-finding disposition and exaggerated ego, should give one a tip as to some of the things that should be shunned or avoided. The quickness of response, such as "What can I do for you today?" may lead one to believe that the principal mission of their visit may be revealed very soon. That can always be done in an optimistic way, if one opens up his business with a somewhat complimentary remark concerning the pines and the white pine industry. The general behavior of the man as to one being welcome gives one somewhat of a cue as to how soon or how late he may present the serious part of his visit. These features apply particularly to persons approached individually.

There is an approach that must be made to an audience, just as to an individual, an indication that one can think with them, that they have had like experiences, either fortunate or unfortunate. The telling of pointed stories that apply in bringing out a point in one's talk is always in good place, but not a strained or long drawnout story, which is told merely for the sake of telling it. People are only temporarily fooled by such. Even a talk to a group should have the same underlying principles of approach that one must observe in approaching an individual. Happy illustrations may be used by citing favorable observation in their own community, but in doing that one must be sure not to cite the right thing in association with the wrong man. The third talk was on

Handling an Audience - The arrangement of the room with reference to seating of the audience, the location of lights, window shades, and various other things, which have to do with the physical comforts of people, were touched upon. The early arrival of a speaker was considered necessary, because it gave him an opportunity to get acquainted with the people, especially with early arrivals. Such information gives the speaker a cue oft times or a tip as to what he might omit and what had better be said. Physical as well as mental fatigue, and the disadvantages of both, were discussed briefly. The ventilation and heating of the room should be looked after. It should be seen to that enough fuel is put into the stoves before the talk is begun in order to prevent the rasping at the stove door with an old poker; and the racket and noise from emptying coal from a scuttle into a stove can be prevented just at the time the speaker is trying to make some good point.

The use of chalk, blackboard and a cloth, or charcoal and Manila paper as a substitute for the blackboard, were considered to be auxiliaries to any good talk. The speaker should see that he has chalk and cloth

for erasing.

Mannerisms and peculiarities of the speaker, other than ordinary mannerisms, were alluded to - the habit of putting on and taking off glasses, the sipping of water between thoughts, the fumbling with the hair, watch chain or lead pencil, unnecessary shuffling of the feet, sticking of the hands into the pockets, excessive gesticulation or pointing at any particular individual, walking down the aisle toward someone who seems to be intensely interested, or who has gotten the speaker's eye or ear by asking a question. The tendency of some speakers to catch the eye of one or two people in the audience and make their entire talk to them was called attention to. It was remarked that people sometimes turn their eyes toward us, and even keep their faces well toward us, as a mark of respect rather than one of attention, and that no speaker should fool himself into believing that merely because people were not asleep their talk was intensely interesting.

In the use of single reel moving pictures, it was considered best to give a prefatory talk, setting forth some things which the picture was about and bring in some features of discussion which could not be presented on a film."

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Mr. A. J. Lambert writing from No. Parsonsfield, Me., June 9, states that he has just "found uredinial spores on skunk currants on top of Wiggin Mt. 1004 feet above sea level, -- found infected pines also."

## BLISTER RUST SCOUTS EXTEND KNOWLEDGE OF DISTRIBUTION OF PINUS MONTICOLA IN WESTERN OREGON.

Mr. L. N. Goodding, State Leader in Oregon, states that, together with the Oregon Forest Service, they have extended the known range of western white pine (Pinus monticola Dougl.) in extreme western Oregon, beyond that described by the U. S. Forest Service.

Goodding writes "One of the two new isolated groups of western white pine was discovered by our scouts, while information concerning the other was obtained by Mr. Barton from the Oregon State Forestry Department." These areas are located in Polk and Washington Counties. "Our scouts also discovered natural white pine in Multnomah, Clackamas and Hood River Counties well beyond the line of distribution by Sudworth. These findings indicate that our knowledge of white pine occurrence is limited, and it will not be surprising to learn that there are scattering white pines in many localities along the coast and adjacent tiers of counties."

Extract from "Annual Report on Blister Rust Work in the Far West, for 1922." By S.N. Wyckoff, 1923.

Note: The above was called to the attention of the Editor for the first time in May 1925, hence the tardy recognition of this discovery. The Editor has brought the matter to the attention of Mr. Geo. B. Sudworth, Dendrologist of the U. S. Forest Service, who was pleased to secure this distribution data, and to see the map accompanying Mr. Goodding's report.

## REFORESTATION IN NEW YORK -

## WHITE PINE STILL IN THE LEAD

By

C. R. Pettis, State Forester, N.Y. Conservation Commission.

In New York State the past year a general forestry committee, made up of various organizations and people interested in forestry, named a sub-committee on reforestation to outline a policy in reforesting, especially as to the output, to cover a period of 10 years. In December the sub-committee reported an outline of recommendations for State policy to increase the capacity of the State nurseries from a spring output in 1924 of 10,000,000 trees to an output of 35,000,000 trees at the end of a 10 year period in 1935. The State Legislature, acting on this recommendation, appropriated $120,000 for reforesting purposes. This will be spent in increasing the size of the present three State nurseries, and the possibility in the near future of starting one or more new nurseries. The Conservation Commission, acting on the recommendation of this committee and the action of the Legislature, planned for an advanced program which will bring these recommendations into effect before the 1935 season. The Conservation Commission increased the capacity this year by sowing seed this past month which will produce between 39,000,000 and 40,000,000 two-year seedlings in the spring of 1927, and thus be ahead of the original outline of recommendations.

Of special interest to men in the White pine blister rust organization is the fact that White pine shows up #1 in the amount of stock in the nurseries. In the tree orders for this year White pine stood #1, the people and the State show no inclination to have cold-feet on White pine. The demand for White pine was so great that there were individuals who offered to go to the nursery and take every White pine seedling which might be left after the

orders were all in. The same thing is true of the Norway spruce transplants. The demand was greater by several million trees than the supply. All transplants were sold and even after this there was further demand. The only thing left in the nurseries this spring were Scotch pine transplants to the amount of 500,000, which were planted on State land. This means that next year there will be practically no 3-year transplants in the nurseries. The nursery practice as worked out now in New York State is such that trees can be grown in the seed beds for two years with roots developed large enough and strong enough to plant in almost any soil. The two-year seedlings as produced at the present time in the State nurseries in most cases are better to plant than the 3-year transplants. Following is a list of the species for which seed were sown this spring, the number of beds sown to each species, the number of poundsof seed, and the production anticipated.

SUMMARY OF SEED SOWING

1925

| Species of Tree | No. of Beds | Lbs. of Seeds | Anticipated Production |
|---|---|---|---|
| White pine | 1542 | 1165 | 12,336,000 |
| Red pine | 1080 | 360 | 10,800,000 |
| Scotch pine | 200 | 67 | 2,000,000 |
| Slash pine | 1 | 1 | 3,000 |
| Corsican pine | 1 | 1 | 3,000 |
| European larch | 90 | 90 | 900,000 |
| Norway spruce | 1280 | 640 | 10,240,000 |
| White spruce | 140 | 70 | 1,120,000 |
| White cedar | 105 | 35 | 630,000 |
| Balsam | 129 | 97 | 774,000 |
| White ash | | 20 | 100,000 |
| Black locust | | 100 | 100,000 |
| | 4,568 | 2,646 | 39,006,000 |

It may be interesting to note where the seed came from. The White pine seed came from New York, Wisconsin, Minnesota. The Red pine from New York, Minnesota, Wisconsin, Ontario, the Scotch pine from Germany, Slash pine (there is but one bed of this seed, which were furnished for experimental purposes by the Great Southern Lumber Co. of Louisiana.) Corsican pine; 1 bed produced 3,000 trees; planted from seed furnished for experimental purposes through the kindness of Commissioner Robert M. Ross of Vermont, obtained by former Governor Mortimer X. Proctor of Vermont while in Europe. These were for experimental purposes. European larch, from Austria; Norway spruce from Austria; white spruce from Denmark; White cedar, native. Balsam; this was collected near the nursery at Lake Clear, Franklin County. White ash; this seed was collected by some of the men working on the Gipsy Moth work. Black locust from Austria. This Black locust seed cost but 14 cents per pound.

The classification of purchases of trees has been made, and is as follows:

Output of State Nurseries by Projects

Spring - 1925

| | | |
|---|---|---|
| Industrials | 1,327,600 | |
| Municipalities | 1,053,700 | |
| Demonstrations | 634,300 | |
| State Institutions | 318,850 | |
| Miscellaneous | 427,150 | |
| Forest Preserve lands | 521,800 | |
| School Districts | 28,700 | |
| Boy Scouts | 31,000 | |
| Private land owners | 4,152,250 | 8,495,350 |

From this table it would seem that the range of planters of trees is varied.

The first shipment this spring was made on March 30, when about 200,000 trees were shipped. This gives an idea of the output for shipment at the nursery some days during the rush season.

Considerable interest is being shown in community forests. A small town in Rensselaer County has acquired 250 acres which will be the largest community forest in the State when planted. This year 35 acres of it were planted, and this work will be continued until such time as the entire area of 250 acres is reforested.

Clara Barton Memorial Forest It was originally planned to set out a few trees in some prominent place in the Northern part of the State as a memorial forest to Clara Barton. Ten thousand Scotch pine transplants were planted at Lake Clear, near the nursery reservation, as a memorial to the founder of the American Red Cross.

## INSIDE DOPE TO RADIO TALKERS

In last month's issue it was stated that Mr. C. C. Perry gave a radio talk on blister rust during Forest Week. In reply to my inquiry as to how he came through with the talk, and whether his knees wabbled badly - Mr. Perry responded as follows: "The radio talk went off very nicely and there was apparently no reason to be nervous in any way. This may be due to the fact that another speaker preceded me and I could see quite readily that it was simply a matter of reading to one's self and being careful to always talk directly into the "mike".

## DR. SCHENCK, NOTED FORESTER, GIVES ADDRESS ON FORESTRY AT UNIVERSITY OF MINNESOTA.

"Forestry is the most important social problem in the country today, for forestry makes possible homes for working men, and homes are the best bulwark of the nation against bolshevism or communism," said Dr. C. A. Schenck, of Darmstadt, Germany.

. . . . . .

"In this country almost every man has a chance to build a home, because you have cheap lumber. In Germany few men can build homes and that is why we have so much radicalism."

. . . . . .

"The forests must be located close to the distributing points so that the lumbering concerns will not have to pay 80 per cent in transportation costs. All other industries are so located and there is no reason why the lumbering industry should not. It will not be economically sound until it is so located."

. . . . . .

"The forests should be operated on a sustained yield basis, the cutting each year being equal to the amount of growth that year, no more and no less."

. . . . . .

"You can make no laws nor regulations that will compel or cause timber owners to reforest their lands as they cut the timber. Conservation can and will be made only by those financially interested in conserving it. When it is economically possible, when it is financially profitable, and when it is sylviculturally necessary, the forest lands will be reforested as they should be."

. . . . . .

"Forests are the wealth of Germany today. Stocks, bonds, money, everything has been swept away, but those who own timber have wealth. There have been no investments like woodlands that have lasted through centuries. As a preserver of wealth there is none like timber lands. The future of your forests in this country is in the forests, and the future of the forests is in the common sense attitude that the timber owners, the government and the people take toward forestry."

. . . . . .

From Forestry as a Social Problem, by A. L. Nelson, "The Gopher Countryman. Vol. 2, No. 5. p. 9, 12. Feb. 1925.

Edit: Here are some good talking points for White pine.

LEADERS WHO CAN HELP.

Ministers and priests are leaders in their communities. Recently a certain minister presided at a local blister rust meeting. That man did more good for blister rust in that community in the five minutes he talked than we could do in a week. The people believe in him and he is well liked. He was just the man to open that meeting. He certainly understands those people and knew how to prepare them for the evening's talk.

A certain Priest asked not long ago if he might accompany the writer on one of his field trips. This gentleman now wants to know about blister rust. He will be shown this disease in its worst form, given full information about it and if I am not mistaken, this man will help by telling others of the seriousness of the rust and the need for control. The moral support of a minister or a priest is just as worthwhile as that of any other man.

H. H. York.

# MOTION PICTURES

The Office of Motion Pictures has furnished us a schedule of reservations for the Blister Rust films which shows that one or two copies of practically all of eight different films are available for the use of our agents for the next month or two.

A list of our films is given below:

Film 1. The Story of White Pine.
2. Logging Eastern White Pine.
3. Natures Crop of White Pine.
4. White Pine - The Wood of Woods.
5. White Pine - A Paying Crop for Idle Lands.
6. White Pine, Beautiful and Useful.
7. White Pine Blister Rust, A Menace to Western Timber.
8. The Pines

Since there is some slight duplication of scenes in Films 1, 2, 3, 4, and 5, only one should be shown to the same audience or at the same time.

Film #1 - The Story of White Pine is probably the best of the first five. Films #6, 7, and 8, however, could be used to advantage with any of the first five or with each other with no danger of duplication.

The average length of time for showing each of the first six films which are only one reel long (about 1000 ft) is about 30 minutes. Film #7, White Pine Blister Rust, A Menace to Western Timber comprises 2 reels with total length of 1668 feet, (not 1 reel with 1000 feet as given by mistake in February number of Blister Rust News), could be shown in about 45 minutes.

Film #8 - The Pines, a two-reel film of about 2000 feet length, takes about one hour to show.

MOTION PICTURES IN NEW YORK.

After securing a hall or similar place to show blister rust motion pictures and fixing a date for the showing of same, the next procedure is to reach the greatest number of interested people and get the best kind of turn out.

Sometimes we can pack a hall with non-interested people and waste a lot of good time, expense and energy on them when those who would be interested and ought to be there, did not know anything about the meeting. Thought and effort must be given to avoid this.

The first thing I do is to get a peek at the hall where the pictures are to be shown, an estimate of seating capacity, accommodations, lights, etc., and a general idea of the community. This done, I begin filling in placards giving the time, place and date of meeting. I then go through my list of pine owners, chief supporters, reforesters, cooperators for cultivated Ribes, etc., for the particular district, get a list of the farmers in that community from the Farm Bureau Office and a list of the Farm Bureau Members. A circular letter is composed to fit that particular community. These are run off on the mimeograph in a few minutes and addressed to the people mentioned above. If I feel that I do not have everyone of importance, I look through the telephone book and pick out names of those whom I think would be interested and would perhaps come. The small handbills furnished by the commission similar to the placards, I fill out in the same way and insert with the letters.

About a week or less before the meeting I start placing the placards in the post office, railroad station, stores, markets, factories, banks, dairies, etc. Usually the placards are posted on the doors or in the windows of stores or in some other conspicuous spot. I always see to it that it is posted before

I leave the store and not wait for the owner to do so himself. Thumb tacks should always accompany the placards. Whenever I enter a store I invite the keeper to come and see the pictures.

The same day or the one following. the prepared letters are sent out so as to be in the hands of the people a day or two after the placards were placed, or three or four days before the meeting.

See the principal of the High School and have him announce it to his students. Have it announced through the Grange, the Masons, the Odd Fellows, and have the local pastors announce the meeting in their services. See the local fish and game clubs and boy scout troops. In so doing, you are reaching everybody and you are bound to reach those who are interested and your chances of getting good crowds with a very good audience are high.

In this way, the meeting is called to the attention of the people from four different ways: the newspapers, placards, letters, and public announcements. The circular letter gives a personal bearing on the matter, something that lays on the table or around the house, each time calling the attention of the owner. Then the newspaper appears with an article announcing the meeting and when the owner goes to the store, or to the bank or post office or barber shop, his attention is again called to the meeting. It is kept before him at all times. If he does not come to the meeting, it is because he is not interested or because it is impossible for him to attend.

Geo. E. Stevens.

## PERSONAL

Mr. S. B. Detwiler left Washington on June 11 for a short trip through the Eastern States. He planned to meet Dr. W. T. MacClement of the Canadian Department of Agriculture at Plattsburg, New York, and with him to visit some of the heavily infected pine areas of the East.

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Mr. Gilbert B. Posey left Washington on June 9 for a short field trip to Harrisburg, Pennsylvania; Trenton, New Jersey; North Hudson, New York; Lansing, Michigan; Eau Galle, and Madison, Wisconsin. He will probably return toward the end of June.

Recent appointments in the Office of Blister Rust Control are:

Mr. Leon E. Crediford, Agent - Sanford, Maine.

Mr. Ralph A. Sheals who finished quarantine work on May 20 has been appointed Collaborator, effective May 21.

Mr. Robert S. Caruthers and Mr. Thurston L. Corbett have been appointed to work with this Office again as Field Assistants. This will be Mr. Corbett's third year and Mr. Caruther's fourth year on this work.

Mr. James E. Riley has been appointed as Assistant Pathologist to assume charge as State Leader in Connecticut.

Dr. Leigh H. Pennington has recently been appointed Pathologist with headquarters in Syracuse, New York.

Mr. Walter O. Filley has been appointed as Collaborator, effective June 15.

A number of appointments have been made in the West, including both Agents and Field Assistants:

In the Spokane Office the following men have been appointed as Agents: Messrs. Walter C. Leth, Galen W. Pike, and Harry L. Whiting. Messrs. Harry A. Brischel, Claude R. Fullerton, Harold R. Offord have been appointed as Field Assistants.

Other newly appointed Agents are Messrs. Harold L. Beeson, Missoula, Montana; Amihud Grasousky, Medford, Oregon; and Thomas D. Mallery, Corvallis, Oregon.

## NOTES FROM OFFICE OF FOREST PATHOLOGY

Dr. Spaulding joins the Northeastern Forest Experiment Station.

Dr. Perley Spaulding has for his immediate project the following:-

1 - Research on white pine blister rust, continuing the work of previous years at North Conway, N. H., Block Island, R.I., and at Chestertown, and Wilmington, N. Y.

2 - Research on the relation of fungous decay to different methods of slash disposal.

3 - Chestnut blight - search for resistant trees.

4 - Study of the pitch pine rust.

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Dr. Boyce goes to Europe.

Dr. J. S. Boyce who has been working for several years in co-operation with the Western Office of Blister Rust Control on various research features of the blister rust, has left this country for a period of a few months to study forest diseases in Europe. While on this trip, he will probably study blister rust conditions on the Island of Bornholm, Denmark, where the climate is somewhat similar to that in the Pacific Northwest.

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Mr. Harry G. Lachmund will carry on the investigative work in the Northwest during Dr. Boyce's absence. He will have associated with him, Mr. C. N. Partington, Mr. E. M. Hornibrook, and Mr. J. L. Mielke.

Research Papers of the Office of Forest Pathology

Lachmund, H.G. - Comparative resistance of the current season's needles of Western White pine to infection by Cronartium ribicola.
For Phytopathology.

Method of determining age of blister rust infection on Western white pine.
Submitted to Journal of Agricultural Research.

Late sporadic production of aecia by Cronartium ribicola in the Pacific Northwest.
For Phytopathology.

Pennington, L.H. Relation of weather conditions to the spread of the white pine blister rust in the Pacific Northwest.
In Press - Journal of Agricultural Research.

Snell, Walter H. and Rathbun-Gravatt, Annie.
Inoculation of Pinus strobus L. with sporidia of Cronartium ribicola, Fischer.
Submitted to Phytopathology.

Spaulding, Perley
A partial explanation of the relative susceptibility of the more important American white pines to the Blister Rust.
Submitted to Phytopathology.

Spaulding, Perley and Rathbun-Gravatt, Annie.
Conditions antecedent to the infection of white pines by Cronartium ribicola in the Northeastern United States.
Submitted to Phytopathology.

Influence of physical factors on the viability of sporidia of Cronartium ribicola, Fischer.
Prepared for Journal of Agricultural Research.

Longevity of the teliospores and accompanying uredospores of Cronartium ribicola, Fischer in 1923.
In Press - Journal of Agricultural Research.

# PUBLICATIONS

## Blister Rust

Anon. An Act to Amend the Conservation Law in relation to planting, growing, propagation, cultivation and selling of the plants, roots or cuttings of undiseased ribes nigrum. The above Act of the New York Legislature became a law April 2, 1925. Laws of New York, Chapter 356. A previous act is amended to read as follows:

1. Black currant declared a public nuisance. Planting, growing, propagating, cultivating or selling plants, roots or cuttings of any species of cultivated black currants (ribes nigrum, ribes odoratum or ribes aureum) within the state is hereby prohibited. Such bushes, roots, cuttings or plants now planted or growing may be destroyed by the agents of the conservation commission.

How to Stop the Spread of White Pine Blister Rust. New York Conservation Commission in cooperation with U.S. Dept. of Agric. 4 page leaflet. 1925.

What Our Prominent Men Say of Blister Rust. Why the Town Method of Blister Rust Control? Merrimack County Farmers Bulletin - Vol. 11, No. 2, p. 5,6, Feb. 1925.

White Pine - A Crop That Will Pay. New York Conservation Commission in cooperation with U. S. Dept. of Agric. 10 page folder 1925.

Idaho Starts Currant Bush Extermination. American Forests and Forest Life. Vol.31, No.378, p. 241, April 1925.

Brockway, Earle M.
Rust Scouting To Begin in Eastern Towns. The Plymouth County Farmer. Vol. 10, No. 4, p. 1,8. April 1925.

Darrow, Geo. M. and Detwiler, S.B.
Currants and Gooseberries Spread Rust. Better Fruit (Portland, Oregon) Vol. 19, No. 10, p. 10, 15-18. To be continued in next issue.

PARTIAL LIST OF NEW YORK PUBLICATIONS ON WHITE PINE BLISTER RUST.

Anon. Forewarned. Jour. N.Y. St. For. Assn.
32:4: 3, Oct. 1916.

The pine blister. Jour. N.Y. St. For.Assn.
32:4:24 Oct. 1916.

Pine blister rust bill.
N.Y. Forestry - 4:27, April 1917.

The pine blister rust.
N.Y. Forestry 4:26, 27, 28, 29. July 1917.

White Pine blister rust.
Report of Com. on Sup. of Pine Blister Rust in No. Am.
Jan. 1918. p.40.

The white pine blister rust.- A four-page colored leaflet.
N.Y. Cons. Com. in Coop. U.S. Dept. of Agric. 1919.

The doom with which white pines are threatened.
Warren County Farm Bureau News, Warrensburg, N.Y.
Vol. 7, No. 4, August - 1922, p. 1 and 2.

Blister rust control.
New York Forestry, Second Quarter, Vol. 9, No. 2, p.31.
1923. N.Y. State Forestry Association.

Atwood, G.G.
Emergency bulletin on the blister rust of pines and
the European currant rust.
Dept. Agr. N.Y. Hort. Bul. 2, p. 1-20, 1909.

New York nursery inspection.
In Jour. Econ. Ent. v. 4, p. 99-105. 1911.

Blister rust of the pine.
22nd Ann. Rpt. N.Y. St. Dept. Agri., pt. 1,
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White pine blister rust.
First Ann. Rpt. Dept. Farms & Markets,
N.Y. pt. 1, p. 117-118. 1919.

Britton, N.L. - A white pine planting.
In Jour. N.Y. Bot. Gard. v. 17, no. 201, p. 152-3
Sept. 1916.

Brooks, A.B. - Fighting white pine blister rust - How the Disease originates and is spread to trees in the forests - Federal and State Governments are cooperating to destroy the pest. State Service, The New York State Magazine, February 1920. p. 133-136.

Burnham, John B. The pine blister rust.
N.Y. Forestry. 4, Pt. 2, 28-29. July 1917.

Collingwood, George H. White pine blister rust.
Chenango County Farm and Home Bureau News, Aug. 1922.
Sullivan " " " " " " " "
Franklin County Farm Bureau News, Aug. 1922.
Fulton " " " " " "
Seneca " " " " " "
Warren " " " " " "
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Manual of Fruit Diseases. p. 212-219, 227. 1917.

House, H.D. - White pine blister rust.
Biltomorean, v. 3, no. 4, p. 47-48, Dec. 1916.

Jordan, W.H. - Cronartium ribicola.
In Director's report for 1912. N.Y. State Agr. Exp. Sta. Bul. 356, p. 559, 1912.

Currant felt-rust and white pine blister rust.
N.Y. State Agr. Exp. Sta. Bul. 393, p. 647, Dec. 1914.

Cronartium ribicola.
In Director's Report for 1906. N.Y. State Agr. Exp. Sta. Bul. 284, p. 341-342, 1906.

Paul, B.H. The pine blister.
N.Y. Conservation Comm. Bul. 15, p. 1-18.
16 Jan. 1917

White pine blister rust.
Reforesting methods and results of forest planting in New York State. N.Y. Cornell Agr. Exp. Sta. Bul. 374, p. 690. Apr. 1916.

White pine blister rust.
Conservationist, v. 1, no. 5, p. 67-71. May 1917.

White pine blister rust.
N.Y. Conservation Comm. Bul. 15, p. 1-16. 1918.
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Paul, B.H. Blister rust work in New York 1917.
White Pine Blister Rust pub. by Comm. Supp. Pine Blister Rust in N. Am. p. 3-4, Jan. 1918.

Pettis, C.R. The white pine blister rust.
Forestry Quarterly. Vol. 7, p. 231-235. 1909.

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The blister rust.
Ann. Rpt. N.Y. Forest, Fish, and Game. Comm. v. 16, p. 62-64, pls. 1, 1911.

Shall we plant white pine.
American Forestry, v. 23, no. 278, p. 71-2, Feb. 1917.

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Proc. Sixteenth Ann. Meeting N.Y. Fr. Growers Assoc. p. 282-287. 1917.

White pine blister rust.
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White pine blister rust.
Ann. Rept. of the State Forester - in the 9th annual report of New York Con. Com. for the year 1919, p. 143-147, 1920.

White pine blister rust report of the work for 1921.
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White pine blister rust.
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Rankin, W.H. - Some types of tree diseases: rust diseases, the blister rust of white pine.
Bailey's Standard Cyclopedia of Horticulture. vol. 1. p. 370 ill. 1914.

Eradication of Cronartium ribicola from European pine plantings in New York State.
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The control of white pine blister rust in small areas.
Phytopathology v. 7, no. 1, p. 58, Feb. 1917.

White pine blister rust.
Tree Talk - v. 4, no. 3, p. 77-78. Mch. Apr. May 1917.

Report on the distribution and control of the white pine blister rust in New York State for 1916.
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Manual of tree diseases, p. 274-281. 1918.

Seaver, Fred J. - The white pine blister rust.
Tree Talk, v. 3, no. 3, p. 89-90. Feb. 1916.

Simmons, J.R. - Gipsy moth, blister rust and white pine weevil. An opinion on reforestation
The Seed Tree - Albany, New York. v. 2 - no.4, p. 1 and 4. Oct. 1924.

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The blister rust situation in New York.
Jour. N.Y. St. For. Assn. 32:4: 25, Oct. 1916.

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Proc. Sixteenth Ann. Meeting N.Y. Fr. Growers Assoc. p. 31-33. 1917.

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Stewart, F.C. and Rankin, W.H. - Cronartium ribicola and the proscription of Ribes nigrum.
Phytopathology v. 3, no. 1, p. 73-74. Dec. 1913.

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Phytopathology, v. 4, no. 1, p. 43, Feb. 14.
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Does Cronartium ribicola overwinter on the currant?
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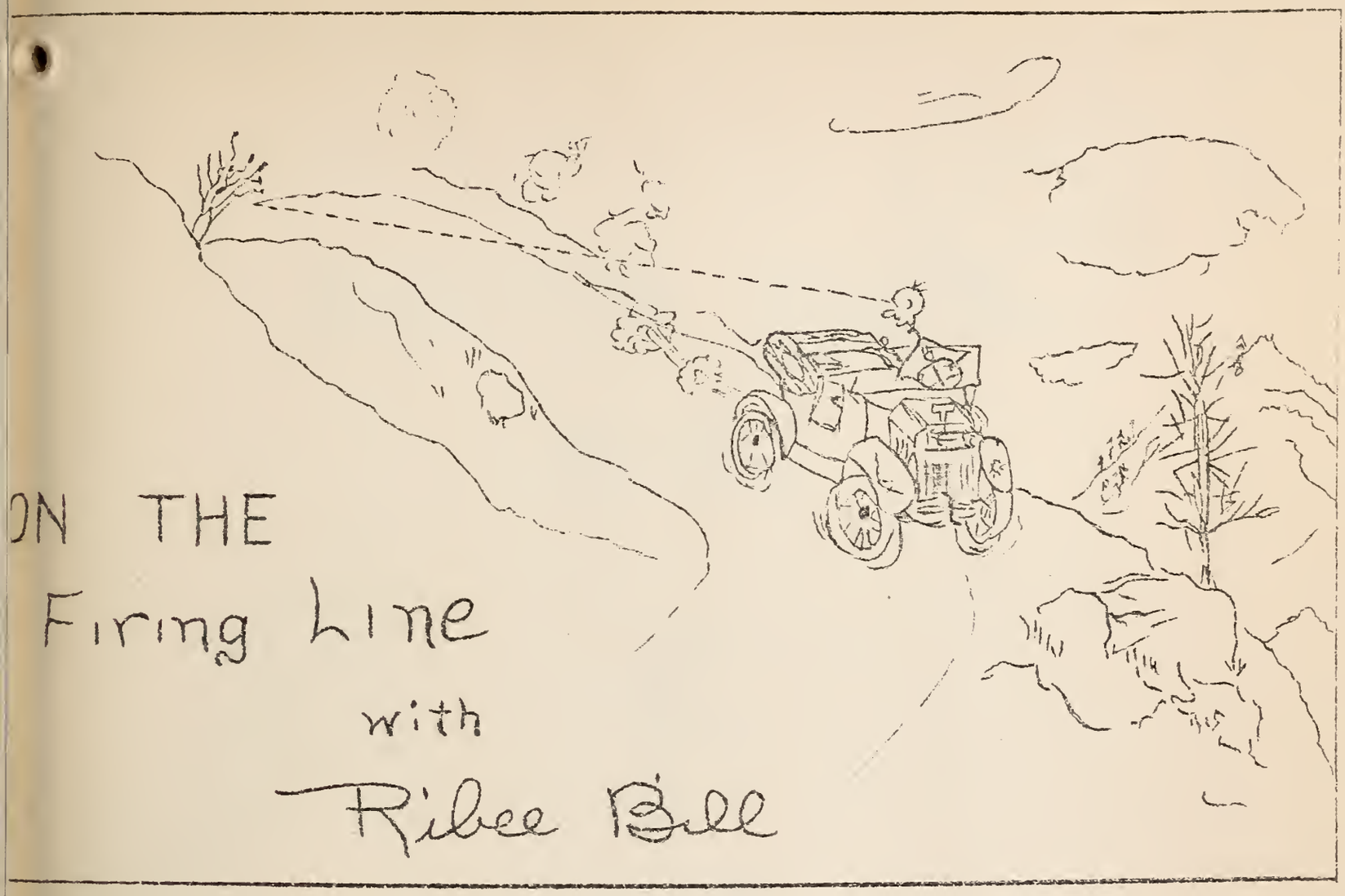


Well, New York, we can always count on your putting it over. There is a lot of meaty stuff in this number too, that the Agents can clamp their teeth on.

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Those Ten Commandments for Pine Owners, Ben, are right to the point. Why not get up some Ten Commandments for non-pine owners too, such as:

1 - Take not your neighbor's pine seedlings - for they may spread the blister rust.

2 - Forbear to plant the lowly Ribes bush near your neighbor's pine lest you harm his trees, etc.

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Friend Hodgkins has hit the nail on the head, with his note on a Ribes herbarium. I'll bet his slogan's "Know Your Ribes".

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

# CONTENTS - VOL. 9, NO. 7.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D.C.

# THE BLISTER RUST NEWS.

Issued by the Office of Blister Rust Control
and the Cooperating States.

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Hello Agent!

Looks as if this hot weather would help us get rid of currants and gooseberries --- seems to me they would simply curl up and die just to save us the bother of uprooting 'em out in the hot sun. However, they are not here to oblige people else they wouldn't be stickin' around our pine doin' as much damage as they can.

Well, cheer up Agent! You've done a big year's work since last July and now we view our accomplishments with satisfaction. It will be only a short time until the bracing autumn air will penetrate even the densest woodlot and the gorgeous colored leaves will crackle underfoot.

Guess there is a reason for the seasons changing 'cause some of us would feel like melted butter if summer lasted always.

Yours for cooler weather,

Ribes Bill

## FOREWORD

The readers of the Blister Rust News will recall that our offering last year was in the form of a pseudo radio broadcast from Stations BRE and BRC. Owing to the prevalence of static during this season of the year, it seemed advisable not to continue the broadcast at this time. The Director of Broadcasting moreover, received so few comments (one) on the program that we are not at all certain that the offering was of interest.

For the readers of this issue we have simply endeavored to prepare and assemble in a sort of a "round robin" affair, a number of short unrelated numbers. We hope that they contain something of interest to our co-workers.

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The responsibility for the fight against the spread of the blister rust in Massachusetts is in the hands of the State Department of Agriculture, as it administers the state laws under which control work is done. However, the problem is essentially one of forest protection, and therefore, we are vitally concerned in the forest policy of the State as formulated by the Department of Conservation. The State Leader has, therefore, secured from Mr. Cook, Chief Forester, the following short article on

## THE FOREST POLICY OF THE COMMONWEALTH OF MASSACHUSETTS.

We believe that the forest policy of this Commonwealth is eminently sane, well rounded and progressive. It is in the hands of the Division of Forestry of the Department of Conservation. In general, one can divide the operation of this Division into six lines of work as follows:

Suppression of gypsy moth: This insect imported from Europe in 1868 has cost the Commonwealth many millions of dollars in its attempt to hold it under control. Each town handles the infested woodland and trees within its own borders through a local superintendent appointed by the town government, but working under the general direction of the State Forester and six district superintendents. In the smaller, poorer towns, the State bears a portion of the expense, but in the larger towns and cities the entire cost is borne by the municipality. The State appropriation for the current year is $60,000.

Forest Fire Prevention: The work of fighting forest fires in each town is in the hands of a local warden appointed by the selectmen or mayor. The local fire wardens act under the general supervision of the State fire warden who has seven district deputies. The entire cost of extinguishing fires is borne by the towns except that in the case of emergencies the Commonwealth will assist the smaller towns with the suitable equipment and pays one-half the cost. The State fire service cooperates with the towns by maintaining forty-two fire towers, manned by trained observers to discover fires and inspect logging operations to enforce the roadside clearing of slash and other regulations. The current appropriation for forest fire work is $58,000.

State Forests: The department is engaged in a policy of buying cheap lands all over the State, paying not over $5.00 an acre and through proper fire protection, reforestation and forest management to insure that these lands shall grow a valuable crop of timber for the future generations of our citizens. So far we have acquired 35 State forests with an area of 90,000 acres. The present appropriation for the purchase and development of State forests is $150,000 annually.

State Plantations: In addition to the State forests above mentioned the department purchases scattered small tracts of cut-over and abandoned farm land from 10-100 acres which it reforests to serve as demonstration plantations. There are at present 180 plantations with a total area of about 7,000 acres. The annual appropriation for purchase and planting these lots is $10,000.

Forest Nurseries: In order to provide the planting stock which must be used on State forests and plantations, it is necessary to maintain three forest nurseries. In addition to the stock for our own use, we supply other State departments and "Town Forests" with stock free of cost and sell trees at cost to the general public. The demands for nursery stock have been so great that we have been unable to keep up with it and are working to produce an annual out-put of 4,000,000 to 5,000,000 four year old trees each year. The appropriation for nurseries is $25,000 annually. During this spring we shipped three and one-quarter million trees divided as follows: Sold 1 1/4 million, State forests 1 1/2 million, town forests and other State departments 3/4 of a million.

Forest Extension: It is essential in any well rounded forest program that the private owners of woodland by education and cooperation practice forestry on their own lands. For this purpose we issue bulletins covering certain phases of forest work; we examine and advise owners on the management of their particular woodlots; give lectures before various organizations and put up forestry exhibits at agricultural fairs and other similar shows. Massachusetts has enacted a wise forest tax law which makes possible the growing of timber without the danger of the entire profit being eaten up with annual taxes.

With the backing of the general public and business interests we believe that the forest program of this State is sure to be successful in bringing the non-agricultural lands of the rural part of the State back into a condition of profitable forest productivity.

H.O. Cook, Chief Forester
Mass. Dept. of Conservation.

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Since the beginning of the fight to "suppress" the white pine blister rust, the Massachusetts Forestry Association, through its live-wire Secretary, Mr. Harris A. Reynolds, has been a real "booster" for the control program. This has been true not only in Massachusetts, but also in the more important national aspect of the problem. At the present time the interest of the Association in promoting the cause of forestry in Massachusetts, has rather

centered about the proposition of Town Forests. Talk about Town Forests in America has been rife for some time, but it has remained for the Massachusetts Forestry Association to get the action - to get town forests established, in other words. In the following article, Mr. Reynolds has briefly outlined for us the high lights of the proposition as the program is progressing in the Bay State today.

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TOWN FORESTS IN MASSACHUSETTS.

The Town Forest movement in Massachusetts is attracting country-wide attention. Up to the first of January 1925, 42 of the 355 cities and towns had set aside land under the Town Forest Act. This spring in the town meetings 23 more places took action and in most instances appropriated money for the purchase of land or the planting of lands already owned. This makes a total of 65 town forests or about one in five of the municipalities of the State that have Town Forests of their own.

The most encouraging feature of this work is the fact that towns which established forests two to three years ago with very few exceptions are appropriating money annually to continue the purchase of land or for reforestation. In several instances planting is not the only part of the program, but the thinning out of weed trees and the establishment of fire lines has been taken up generally in the districts where the fire hazard is great.

Although the data on the work done this spring is not yet complete, we find that from the information already obtained the 65 cities and towns have appropriated in the aggregate $45,086 for the purchase of land and reforestation. The acreage acquired is 5,834 and the number of trees planted to date is over 657,000, of which the Massachusetts Forestry Association has planted 105,000 free of charge in lots of 5,000 each for 21 different towns. These plantings are made for demonstrations and as a means of encouraging the cities and towns to go into this work. The New England Box Company planted 10,000 trees in two towns this year, matching the offer of the Forestry Association.

Besides the 65 places that have created such forests there are now 110 others that have taken official action in this matter by the appointment of special committees to investigate the subject and report at the next town meeting. At the rate this movement is going it seems certain that in another five or ten years practically every city and town in the State which has idle land will have its own little forest. On the whole this movement seems destined to become more important in Massachusetts from the standpoint of timber production than the establishment of State Forests, although there is no comparison as yet between the areas set apart for these purposes.

With the exception of about one-half dozen places the lands set aside for Town Forests are not a part of the areas for the protection of domestic water supplies, because our law at present does not consider such an area as Town Forests unless the Town sets it aside under the Town Forest Act. We hope this coming year to amend the law so that all water supply areas will be made

Town Forests and there are over 50,000 acres in watersheds, on which much planting has been done.

The Massachusetts Forestry Association has voted to continue its offer for another year to plant 5,000 trees free of charge for any town that will set aside 100 acres or more as a Town Forest.

Harris A. Reynolds, Secretary
Massachusetts Forestry Association.

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HISTORICAL SKETCH OF BLISTER RUST IN MASSACHUSETTS.

After the blister rust was found in New York in 1909, on newly imported young pines, it was learned that similar importations of white pine had been made in other states, among which was Massachusetts. This same year several lots of State and private imported white pines were examined in Massachusetts and the disease found in plantations in the towns of Andover, Hubbardston, Montague, Springfield and Sturbridge. Later developments showed that the disease was present in the state probably as early as 1902. Prior to 1912 there was no quarantine against the importation of white pines and no duty upon forestry seedlings. A large demand for white pine planting stock had sprung up and could not be supplied by home-grown stock, hence a large number of young white pines were imported from Europe, many of which were diseased. The disease could not be recognized in its early stages, by inspection, because of its three-year incubation period on pine, so that shipments of these trees which were infected with blister rust were received and planted as healthy stock. The state prohibited the further importation of white pines from Europe in 1912 and this was followed by a similar Federal quarantine in 1913.

Systematic inspections were made each year, of imported plantings of white pine and the diseased trees destroyed. This inspection was made in nurseries and also extended to private plantings of imported pines which were traced through nursery inspection and custom house records. At that time it was thought the rust could be eradicated by destroying all diseased trees.

In the fall of 1915 a specimen of diseased pine was received from Lenox, Massachusetts. Investigation showed that the rust was present on native and planted pine in Lenox and it was generally distributed on Ribes throughout the Housatonic Valley. This discovery of the establishment of the rust in epidemic form in Western Massachusetts led to a systematic survey for the disease in 1916, the results of which showed that it was present throughout the Commonwealth. It was found on pine in 45 towns and on Ribes in 205 towns. During the same year the first attempt to control the disease by the eradication of Ribes was carried out experimentally on a small scale in the towns of Lenox and Ipswich; the two areas where the disease was known to be most prevelent. The State cooperated with the United States Department of Agriculture in developing control measures and testing them extensively by practical application on control areas. After demonstrating the practicability and effectiveness of control by Ribes eradication, the State undertook the present control campaign in cooperation with the United States Department of Agriculture to secure the general application of control measures by pine owners throughout the Commonwealth.

J.F. Martin.

Everyone knows that the average farmer has no spare cash, so that he is not in a position to be interested in the general subject of investments. It is useless, therefore, to talk to this portion of the populace about the planting of white pine purely from the standpoint of an investment. In the following brief contribution, Mr. Roop emphasizes the need of presenting to the farmer, the viewpoint of white pine as a waste-salvager rather than as an investment in the ordinary sense of the word.

WHITE PINE AS A STOP-LOSS OR WASTE SALVAGER.

The average New England farmer, although making a comfortable living, requires about one-third of his real estate - the productive part - to carry the other two thirds which is unproductive. Fixed overhead charges on any land amount to about 9% a year, of which 3% is for taxes and 6% the interest on funds invested. The farmer, as a rule, fails to realize that he is paying these fixed charges on the unproductive portions of his property and these are a total loss since there is no return to offset them. What business institution would stand the drain on its resources? Business interests spend much time and energy to solve this problem, while the average farmer lets "nature" take its course.

In some cases, of course, nature does assist, where for example, there are a few seed trees which put a part of the farm back into a condition of forest productivity while the farmer plods on. In many instances, however, nothing takes place and the land continues in its condition of idleness. It is in connection with such cases that good advice is needed, to point out to the owner just what is taking place in his "plant".

We know that every farmer can assist nature and make his entire farm productive, each unit to carry its share of the fixed charges. This can be done by planting white pines at a cost of about a cent a tree which will yield a profit after paying their share of the fixed charges, thus leaving something to posterity other than the debt represented by accumulated fixed charges. Moreover, under our Massachusetts law, provision is made whereby the growing timber is tax-free until the crop is harvested, provided the owner makes proper application for such tax exemption.

The complaint is often made that it takes too long to grow pine anyway, but we should emphasize the fact that every year the pines are increasing in growth they are adding a value to the farm. In other words, a credit or sales value is being established which enhances the value of the property in the event of sale or for a needed loan. You need not die or wait for the harvest to get returns from white pine; its working for you all the time. Let's urge the farmer to put his whole farm on a productive basis and let the slogan be "Set more white pine for better and more profitable farming". Those who are familiar with the land problem in New England know of thousands of acres, parts of productive lands, which are simply "loafers". Someone has remarked that we do not have very much respect for the street corner loafer and he never amounts to a great deal, - why should any land owner "pay the keep" of loafing land. Put it to work!

When it comes to a matter of protection against the blister rust, it is simply a case of insurance pure and simple, and the premium involved when distributed over a period of years is trivial. If a man believes in the great principle of insurance, he must believe in the eradication of Ribes as a protection for his white pine.

William T. Roop, Agent
District I (Essex) Massachusetts.

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Maine has its "Kittery"; New Hampshire its "Littleton" and "Temple"; Vermont its "Waterford"; and New York its "Horicon". Massachusetts now tells of its "Pembroke Arms".

A "KITTERY POINT" IN MASSACHUSETTS - "PEMBROKE ARMS"
Pembroke, Plymouth County, Massachusetts.

On July 17, 1917, Perez Simmons, then an Inspector with the Massachusetts Nursery Inspection Service, found a patch of about 100 cultivated Ribes - Black currants, Red currants, and Gooseberries on the grounds of the estate then known as the Pembroke Arms Inn, situated in the northern part of the town of Pembroke, in Plymouth County, Massachusetts. His report, though meagre, refers to the unusually heavy uredo and telial infection on the Ribes, which fact directed his attention to the presence of the nearby infected white pines. At the time, 200 pines, located in rather close proximity to the Ribes, were found to be diseased. The cultivated Ribes were ordered destroyed. Some time later it was found that the bushes had been "destroyed" by the owner by cutting off the tops and it was therefore necessary to grub out the remaining roots. This was done so thoroughly that, according to the local Tree Warden, "not a trace of this menace has been evident since that time." Of course he referred to the Ribes and not to the pines.

The above is the early history of what now can be cited as one of the best, if not THE best example of blister rust damage to native white pines in Massachusetts. Briefly described, the portion of the area in which we are particularly interested, consists of the "front yard" of a private estate with a scattering of ornamental pines and an extended area of natural woodlot pine of different age classes, but practically pure white pine.

During the winter of 1917 and 1918, a survey map was made of an area of nearly 500 acres with the "Inn" grounds as a center. This survey was in charge of Mr. Geo. A. Root now connected with control work in the west. At that time, Mr. Root found 408 infected trees and a bit later 20 more were noted, bringing the total to 428. Since the completion of this survey, little or no attention has been paid to the area.

In January of this year (1925), however, Messrs. Hodgkins and Brockway made a study of conditions by laying out two quarter acre sample plots in the woodlot adjoining the "Inn" grounds. These two plots showed the following results when the data on the two plots was combined.

| Age Class | Tot. No. Trees | No. Trees Inf. | % Inf. | No. Dead Trees | % Dead |
|---|---|---|---|---|---|
| 4 - 10 yrs. | 9 | 7 | 78% | 7 | 78% |
| 11 - 20 yrs. | 49 | 24 | 49% | 15 | 31% |
| Over 21 yrs. | 69 | 46 | 67% | 1 | 1% |
| Totals: | 127 | 77 | 61% | 23 | 18% |

These studies now indicate that the infection dates from 1908 with no signs of new infections developing later than 1917, the year the Ribes

were destroyed. The majority of the infections took place between the years 1911 and 1916. Young seedlings are coming in all over the area and the absence of infection in these youngsters is very striking. In a report on conditions, Mr. Hodgkins comments as follows: "These pines have been severely damaged. The tops of the trees have been girdled by the disease and broken off by the elements, and now litter the ground. In one case, two large tops were lying across each other and others close by, some having broken off this winter. The trees which have broken tops range from 6" to 18" D.B.H. Some of the "Doubting Thomases" should see this area."

Although during the course of Mr. Root's study of the conditions, he located 1321 wild Ribes, these bushes were in such locations in relation to the area of heavy pine infection, that he concludes that "wild Ribes probably did not play an important part in the distribution of pine infection in this particular area." Moreover, no wild Ribes have been noted on the area of intense infection in any of the recent inspections.

No one has definitely accounted for the origin of the disease in the area but the existence of a plantation with infected pines, on an area not over 2 1/2 miles to the northeast in North Marshfield, points to a clue at least, as to the possible point of origin of the aeciospores originally infecting the offending "Blacks".

Needless to say, effective use is now being made of this infection area, although out of deference to the wishes of the present owner of the property, a permanent demonstration area as such, has not been established. This is where we take the heads of the local lumber concerns and they convince themselves by merely observing the damage now being revealed by the broken tops, dead and dying trees which are found in abundance. We have never failed to get an owner's promise of cooperation after he has visited this place.

Recently Mr. Endersbee snapped some very interesting pictures of the damage and many of the prints would pass for some of the pictures he took in the Waterford area in Vermont. Mr. Reynolds, Secretary of the Massachusetts Forestry Association, also visited the area lately and is including a few feet of scenes from this area in his films on "Forestry in Massachusetts".

Much as we may regret the serious injury that has been done to the pines on the area, some such demonstration is almost essential to successful educational work in any district. We believe that a further study of the Pembroke Arms area in the way of a recheck of the studies made in 1918 would be productive of information of considerable value in our work.

Earle M. Brockway, Agent,
District III (Plymouth-Franklin)
Massachusetts.

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In the removal of cultivated Ribes, we receive all sorts of threats of persecution, prosecution, appeals to the Supreme Court, etc., etc., but it was not until September of last year (1924) that any of these threats materialized. Mr. Clave tells in his own way of a few.

LESSONS FROM A DAY IN COURT

To everyone, be he innocent or guilty, the prospect of a day in court is decidedly uninviting. So it was with uncertain feelings that two blister rust workers entered the court room of the Middlesex County Court House at Ayer, Massachusetts, one fine September day last year (1924), to answer to a charge of an improperly drawn complaint of wilful and malicious trespass. The judge, seemingly in a playful mood, sensed a good time and determined to make the most of it. After clearing the docket of a few minor cases such as assault and the like, he called for the defendants in the case of Ralph Brown vs. Merrick and Clave, which involved the defendants in a successful attempt upon the lives of some two hundred cultivated? red currant bushes belonging to the complainant. Notice had been given to the owner regarding the necessity for the removal of the bushes and four pine infections had been shown him within three hundred feet of the bushes but to no avail. Finally, the bushes had been removed by the defendants and the result was the invitation to view the interior of the court house and to observe the grinding of the mill of justice.

The case wavered back and forth, at times His Honor seemed to be entirely in our favor, while at other times we had visions of spending the remainder of our lives cracking stones instead of pulling Ribes. And on that last word (Ribes) hung the decision.

There is apparently a difference of opinion as to just what the difficulty was, but we now believe that the judge had the impression that the word Ribes, as it appears in our state law, was a technical term for five-leafed pines. In other words, he failed to see from his interpretation of the law, how currants entered into the case at all. After much parley, we finally succeeded in conveying to his judicial mind, the information that the word Ribes referred to currants and not pines and then he said "Prove that and I'll acquit you." We looked at each other, each expecting the other to produce a circular on blister rust that would contain positive proof of our assertions. Search as we did, there was not a circular in the crowd. We would have paid liberally for a copy of old reliable #742 but finally the Clerk came to our rescue with a Century Dictionary. We had never looked up the official definition of the work before, but it was like music to our ears when, with a grin, His Honor began to read, - "Ribes, pronounced Rye-bees; a genus of dicotyledonous shrubs constituting the family Grossulariaceae, and including the gooseberries and currants. They have small, racemose, variously colored flowers, . . . . ." and so on all the way to the end of the definition. From then on it was clear sailing for the defendants and we were finally discharged.

There were several interesting sidelights to the case which I believe are worth mentioning. The case brought to light what appeared to be inconsistencies in the law that crept in with the rearrangement of the statutes in 1920. These have now been remedied by an amendment to the law as passed by the legislature of 1925, and among other things we have defined Ribes to include currants and gooseberries.

Another catastrophe was narrowly averted when one of the witnesses, a state blister rust inspector, unthinkingly referred to Mr. Merrick as his

"federal boss". This reference aroused the judge. He asked "What's this about federal boss? If those bushes were destroyed under federal authority I'll convict you at once!" It was explained that the bushes had been removed solely under the authority of the state law. The matter was finally dropped, but not until His Honor had gently but firmly squelched us.

The lessons taught by this experience and which we are not likely to forget for some time are, that in dealing with the removal of cultivated Ribes, blister rust workers must remember at all times that the authority for the removal of Ribes is vested entirely in the State Department,-the federal government has no such authority. Also we must remember to carry blister rust circulars with us at all times. If we prefer we might build a truck body for the old flivver and carry a large sized "Century". We hope that you will never have to experience the "grand and glorious feeling" in the words, - "The defendants are discharged".

William Clave, Agent,
District VI Worcester (North)
Massachusetts.

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A report from blister rust workers would hardly be complete without some reference to Salesmanship. We are glad to include at this point, two contributions relating to this subject. The first is titled

SATISFIED "CUSTOMERS"

We are all agreed that good advertising is a good investment and the best advertisement in all the world is the good will of the satisfied customer. "If you are satisfied tell others, - if not, tell us." How long does it take to satisfy a cooperator and how much will he tell others. Every now and then it is necessary to tell him that he is satisfied and, in a way prove it to him. Here are two cases which show what satisfied customers may do or say.

The first gentlemen lives in a little town where pine is plentiful and Ribes few and far between, as a rule. Last season he "bought" the idea of pine protection, furnished a crew, and the Ribes eradication work proceeded with a state foreman in charge. Undergrowth on his estate was dense and Ribes were more abundant than in the surrounding country, and for this reason many checks were recorded. Two very definite checks were made over the area by the Agent in company with the cooperator. The crew, though inexperienced, had done very good work and was improving rapidly when the owner called a halt, on account of the mounting expense, saying that all of his land had been covered. The tax list showed that his statement was not correct. The agent, however, made no remonstrance and the crew was immediately shifted to the next job.

Our cooperator admitted last season in a half-hearted way, that the work was satisfactory, but apparently he wanted more time in which to think it over. Two weeks ago, he telephoned to the agent to say that he had planted five

thousand white pines as fill-ins in a cutover lot where Ribes had been eradicated last season. He then requested the services of a foreman to direct the work of a crew in protecting three other lots of pine that he had failed to list the year before. Eradication has been in progress on these lots for two weeks to date. As far as is known, it took this cooperator several months to make up his mind that he was satisfied with the protective measures, that had been carried out on his property. He now says that he has confidence enough in the work to plant pine where Ribes have been eradicated and he practices what he preaches. He was also a good backer for the movement this spring which brought about the establishment of a Town Forest in his community.

It saves time if one can convince his prospect without demonstrating the seriousness of the disease by visiting an infection area. In fact, where local infection areas are not available, it is often necessary to do so. This method was tried out the latter part of last season in a small town where fifteen owners controlled the entire acreage. It was a case of convincing the owners that blister rust is a serious tree disease without showing them an infected area. The work was so pressing that the agent did not have time to locate a suitable plot for demonstration purposes at that time. Ribes eradication work was started and during the progress of this work two infection areas were located. Several of the owners were notified and a disease and damage demonstration was given. Previous to this all had been satisfied that the work was worth while, but after seeing the infection on their own property, they seemed to register double the satisfaction. One declared that the Ribes eradication work would have been worth while even had it cost twice what it actually did cost.

A good job guarantees satisfaction.

G. Stanley Doore, Agent,
District VII Franklin-Hampshire
Massachusetts.

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BLISTER RUST SERVICE

You can journey north, south, east, or west, but no where in your travels will you meet more interesting and individual people than right here in New England. I speak for the most part of our farmers. The average farmer around these parts may have been born and brought up in New England with all the old fashioned puritanical ideas, but he is "from Missouri" when it comes to accepting blister rust service as a gift. He does not believe in that well known and often practiced theory of "something for nothing", he must be shown the real facts. He must be sold the idea, in much the same way as a saleman sells his goods to a customer. If this is true, and I know it to be the case in Essex County, then every blister rust worker must have the qualities of a salesman.

The point is that more can be accomplished by the selling idea than by the gift method. Men are always sceptical about gifts, while they will listen to reason if you attack the problem from a reasonable and logical viewpoint.

Clifton A. Sibley, Inspector,
District I (Essex) Massachusetts.

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Mr. Craig who spent the spring months on the "quarantine line" with our good Massachusetts friend L.W. Hodgkins, returned to Springfield in time to jump into the Ribes eradication harness. He sends in the following article to point out how conditions of soil, topography, etc., materially modify the problem with which we are confronted even in one particular district.

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## WILD RIBES CONDITIONS IN THE WILBRAHAM HILLS AS COMPARED WITH THOSE IN THE BERKSHIRE HILLS.

The Connecticut Valley divides the mountainous region of Massachusetts into two sections. The ranges lying to the west of the valley in this state are known as the Berkshire Hills. The southern portion of the ranges to the east - from the towns of Granby, Ludlow, Wilbraham, and Hampden, to the eastern limits of Hampden County (Holland and Brimfield) - are known as the Wilbraham Hills.

These two hilly areas are very similar in age and origin, as well as in their country-rock, which is a metamorphosed granite, or gneiss, overlaid with rock of sedimentary origin, in many places eroded, leaving the gneiss as surface rock. The amount of rock outcrop is much greater in the Berkshires than in the Wilbraham Hills. The general elevation of the Berkshires exceeds that of the latter hills by about one thousand feet. In addition, the Wilbraham Hills are from forty to sixty miles nearer the coast.

Soil conditions in the two regions are markedly different. In the Berkshires - except where disastrous forest fires have burned everything down to bed-rock, the soil is a heavy loam, intermixed with a light gravel, and overlaid with a thick mat of humus from 8" to 10". In the Wilbraham Hills, on the other hand, the mineral soil is a light sandy loam, intermixed with coarse gravel, and a humus mat rarely over 6" deep. Differences in glaciation, differences in the character and quantity of sedimentary deposition, increased rainfall nearer the coast, together with differences in topography, would all aid in accounting for this difference in soil conditions.

As would be expected, this difference in soil is reflected in noticeable differences in the location, quantity, and species of Ribes found in the two places.

In the Berkshires, Ribes are very abundant in all the usual habitats of this genus. They are found along stream-banks, in most swamps, around rock-outcrops and ledges, on old cuttings (especially around brush piles) - indeed, as has been said, in all the normal habitats of the genus - as well as some abnormal ones. The chief species, in order of abundance, are as follows:

1. Skunk currant (Ribes prostratum)
2. Prickly gooseberry (R. cynosbati)
3. Wild red currant (R. vulgare)
4. Wild black currant (R. americanum)
5. Swamp red currant (R. triste)
6. Swamp black currant (R. lacustre)

In addition to these, there are, of course, large numbers of cultivated bushes, and escaped cultivated bushes on occupied and abandoned farms. These do not come within the scope of this article.

In the Wilbraham Hills, the wild Ribes are not nearly as abundant as in the Berkshires. In the course of many scouting trips and during Ribes eradication work, the only location in which wild Ribes have been found are the occasional black-muck swamps that occur here. In addition to these, there are, of course, the abandoned farms with bushes once under cultivation. The only true wild Ribes found so far are the prickly gooseberry (R. cynosbati) and the wild black currant (R. americanum). Of these two, the former is by far the more abundant. Most of the swamps are characterized by the presence of sphagnum moss, almost a certain indicator of the absence of Ribes. The ridges are almost entirely free from wild bushes, as are also the rock-outcrops and ledges. No wild Ribes have been found to date on the old cuttings nor on burns.

In summarizing, we may say that the Ribes in the Wilbraham Hills are much less abundant than in the Berkshires; that they are confined to the black-muck swamps, and to two species, prickly gooseberries and black currants.

Ronald B. Craig, Inspector,
Dist. VIII Hampden-Hampshire (South)
Massachusetts.

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There has been quite a difference of opinion as to the wisdom of the employment of high school boys and in particular "Boy Scouts" on Ribes eradication work. There has been some discussion "pro" and "con" and our Mr. Wheeler is one of the "pros" as indicated by the following comment on

BOY SCOUTS AS "RIBES HOUNDS"

Last season we experimented with the use of boy scouts acting in the capacity of laborers, assisting farmers with Ribes eradication work. Their work proved very satisfactory and cut the expenses to the cooperator more than in half. This season we have planned a real boy scout program.

The Tunxis Club estates in Tolland, Mass. consists of some 7,000 acres a big percentage of which has a wonderful reproduction of white pine. Last season the entire area was gone over and two high school boys were employed to eradicate Ribes along stone-walls, in cellar holes, etc. At the same time, the principal pine areas were located and also the principal Ribes habitats. As a result of this preliminary work, it was determined that it would take two crews an entire season to do the necessary work.

Funds sufficient to do the work with a regular crew were not available, but the officers were anxious to protect the pine if possible. The following program was suggested and has met with the approval of the officers. The Club is to furnish food and shelter for twelve boy scouts, and two inspectors beginning June 22 and until about September 1st if the work cannot be completed before then. The Club has taken one of the abandoned farm houses on the property

and has equipped it with the necessary camp outfit. One of the scouts who has had camp cooking experience will do the cooking; he will always have one scout to assist on kitchen police. That will leave each inspector with a crew of five men for field work.

The scouts range in age from 14 to 17 years. They will receive no compensation whatsoever and strange as it may seem, it was not difficult to get a goodly number of boys to go under these conditions, for they have to pay to go to the ordinary scout camp. The camp will not be an organized Scout camp as such detail would take up too much time. It is believed that the blister rust work together with routine camp work will keep the boys busy. The essentials are good eats, and plenty of them, a place to swim and an opportunity for a certain amount of recreation. This camp will have all of these.

We are looking forward to a successful program, as all boy scouts are interested in forestry and woodcraft, are willing to work, and eager to outstrip each other in effort and efficiency on the job.

Ralph E. Wheeler, Agent,
Dist. VIII Hampden-Hampshire (South)
Massachusetts.

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One of the most important phases of the work of a blister rust control agent is the preparation of articles that will be of interest to various types of people. We have those who are interested in figures, others who insist on facts; those who wish to be amused and others to whose appreciation of things beautiful we must appeal. Mr. Gould in the following article seeks to interest those who are aesthetically inclined and who appreciate the value of white pine from the standpoint of its picturesqueness or scenic value.
(Reprint from "North Shore Breeze" - March 20, 1925)

TRAMPING IN MANCHESTER'S WOODS

Through the woods, up hill and down dale we go, glimpsing
tree and rock,
Brook and pool, and Spring's first Messenger

Tramp with me through Manchester's beautiful woods - through one of the most beautiful picturesque towns of the Massachusetts seaboard; aye, and almost of the state itself. Glimpse with me the work of the Greatest Artist ever known. You can delve into His gallery and enjoy His handiwork as seen in my meanderings o'er hill or down dale, across pathways or swamps, through beech groves and pine or hemlock forests, that abound in this almost unmarred natural reservation.

Many places within the bounds of Manchester remind one of other states; for instance, the famous "Agassiz Rock" that purports of Maine and tops one of the wild and glacial elevations; and the dense, somber woods that in spots contain mountain yew and laurel, not now symbolic of our woods, sad to say. Here is

The unplanted forest-floor, where on
The all-seeing sun for ages hath not shone.

Let us start on the hill overlooking the harbor that once floated the ships of brave and hardy pioneers. Here it was that during the war of 1812 the citizens built the powder house which has from usage given the name to the hill on which we stand. Here it seems

I lay upon the headland height, and listened
To the incessant sobbing of the sea.

Backing this hill to the west, in the direction in which we will travel, are stately trees, mostly the majestic oak and whispering pines; but when the descent is started we skirt a swamp of magnificent maple, edged with a thick bank of evergreens, with now and then a cluster of tupelo or beech:

Waves the pine tree through my thought,
And fanned the dreams it never brought.

Old trees, tall oaks, and gnarled pines,
That stream with gray-green mosses.

This swamp is thoroughly under-planted with wild gooseberries. The deadly enemy of the white pine - and along the bank can be seen the toll which it is exacting of our wonderful forest growth.

To the northward of the swamp there appears to be out-croppings of bare rock and ledge, and upon examination is disclosed a wide pathway through the "tall timbers," a pathway that leads not to heaven, but to the gradual impoverishment of our country, caused by the wanton and destructive ax wielded by one who had no thought of beauty or the future of the greatest country on earth.

Swinging again to the west, leaving this devastation behind, and traversing another swamp through which

A silvery brook comes stealing
From the shadow of the trees,
Where slender herbs of the forest stoop
Before the entering breeze,

We start to climb a beautiful rock ledge, dotted here and there with a canoe birch or a solitary pine endeavoring to stick to its side and find nourishment enough to sustain life. Or perhaps it is the remains of one of these trees, showing its unequal struggle to maintain that which is most precious - life. Each of these had hung

Its bony roots clutching around and across,
As if they would tear up earth's heart in their grasp,
Ere the storm should uproot them, or make them unclasp.

This type of ledge has been extensively used as a foundation in building a great many houses in Manchester and vicinity.

But let us stop awhile and listen to the birds, real harbingers of spring, and hear the oak leaves rustle as if mindful of their mummified condition and eager to drop to earth and join comrades gone before. There is a maple bud

over there feeling the life within, and even now straining his tight jacket in an attempt to show the world new-born beauty and the joy of being and living. Beneath this shelf or rock, and apparently just revelling in the sunny smile bestowed upon it from overhead, can be seen the first wee sprout springing from the breast of Nature.

Over that next hill, if I may call the slight undulations of the land by that name, and set off by the bright green of massed pine tops, we can view the deep azure of the sky, suggestive of, and radiating the summer that is fast approaching.

Now, crossing a perfect carpet of God's house, clean pine needles, and speculating as to its adaptability for a summer picnic ground, we finally climb the steep side of Moses' Hill, now topped by the water tower, and gaze upon the splendor of Wyman's Hill where I shall endeavor to take you at another time. Continuing to the northwest from Moses' Hill we pass over a thickly settled and dense little hilltop into a valley. Leaving the valley, with its little pool of mirrored water, and ascending a seemingly impenetrable hemlock-covered slope, we gaze next upon a barren waste even more painful to the artist's eye than the uncalled-for destruction on the back grade of Powder House Hill, that of fire, which is one of the most deadly enemies of our woodland splendor - -

A good servant, but a bad master.

Let us stop a moment and think. The ax and fire show us clearly a spectacular damage, but the currant and gooseberry, spreading the white pine blister rust, is as deadly an enemy, stealthily stalking through the forest much as the Indians of yore, claiming its victims at will. This must be checked even as we battle with fire to preserve our principal natural inheritance, scenic beauty.

Let us go from this scene of distaste and let our footsteps wend a way towards the southwest, to speculate upon the more beautiful forest lore which you are to view, and which is without a mar or a scar, except that which nature makes to perpetuate itself, and to give us a deeper shade of color and a more luxuriant growth.

Ralph O. Gould, Inspector
District I Essex County, Massachusetts.

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With the aid of a special delivery stamp, E.J. McN gets in on this number by the skin of his teeth, but believe that you will agree that his "act" was worth waiting for. "Mac" missed his vocation, we believe! Hope that our readers will not suffer a shock in passing "from the sublime to the ridiculous".

Mac's crew presents

THE RIBES ROUNDUP

(Partially censored by CCP:MEC)

Characters: No character left, if any ever existed.

Dinney! Turn the crank.

Some wise gent once said, "Ignorance is Bliss". To my mind that was a very trite remark. On the surface, this would appear to have no connection with blister rust. It has though, in my district. Cooperation is so good, that I am ignorant as to why.

I am able for the first time, to put in a whole day with each man and not worry about the next job. When you get corporations and individuals, requesting cooperation, something is "haywire" or terribly right.

Gentlemen! That is the Bliss part of the opening remark. I have all the bliss in the world and half the Ribes for good measure.

Dinney! Turn the crank.

Our next scene opens with Mr. Perry pacing the station platform, waiting for your truly. After a rough ride I got him on the job quite whole. We had located a new infection area along a roadside. I was very pleased with it, as I thought it would make a fine demonstration plot. Would you believe it! He laughed at me. He wouldn't even admit it was a road. "It's the jumping off place, Mac," is what he said. Now wouldn't that knock you. Civilization is doing an awful job on that boy.

Dinney! Turn the crank.

I can readily feel for the man who is afflicted with heart trouble. I don't mean love. You know, every house down here has cultivated Ribes. A short time ago we pulled up at a farmhouse, we surveyed the scenery with awe and interest. We stood spell-bound at nature's handiwork unfolded at our very feet. The owners, an old couple, seeing our helpless condition, came out and offered aid. Time and man had not changed a vestage of that scene for years. The lady cried; I had a cold and I cried with her just to be sympathetic. She said, "Young man, you are a gentleman". I didn't correct her, and took no offense at her mistake. For how could she know?

Dinney! Turn the crank.

I cried so well that day, that I could have sold tombstones; you know that is the important qualification of a tombstone salesman. We gradually recovered our limited senses and went to work. The final count showed 1080 flowering currants on the two ton truck requisitioned to take them to their final resting place.

Dinney! Turn the crank.

I am a hard luck bird. The other day it fell to my lot, to locate the lines on an old farm. The owner, a spry young girl of 70 summers, undertook to show me the bounds.

I waited, while she donned pantaloons and rubber boots. The pantaloons fitted her too quick. In fact they would have been a perfect fit for Mr. Perry or my landlady, Sara, for that is what we will call her, (for want of a better name) navigated the first half mile O.K. I forgot to say she took up the slack with a liberal supply of pins.

When things happen, they happen fast. A careless step and Sara bit the dust, pronto. She scrambled to her feet with a portion of the pins A.W.O.L. To make a long story short, Sara fell a plenty, and the pins seemed to elope at each fall.

We made the road again, Sara clutching her garments. We met her hired man and one of the scouts, they grinned and I shied a club at them. My aim was poor, so they have turned poetic and sing me to sleep with this. (Censored)

DINNEY! TURN THE CRANK.

The End (Signed) McNerney

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The State Leader had intended to make a few "Remarks" in closing this "round robin" but "Mac" has finished him. We'll send along the statistics for the next number.

In the words of our good friend "Bill" ("Doc") Regan of Chemical Ribes Eradication fame. ---

"SEE YOU SOME MORE"

C.C. Perry, Agent,
State Blister Rust Leader for
Massachusetts.

## SOME REAL SCOUT WORK

Scout Executive Burgess of La Crosse, Wisconsin, secured 5,000 white pine seedlings from the State Conservation Commission, called the rural boys together at Black River Falls, and presented each with 50 of the seedlings for planting. Then he signed up 40 of the boys as Lone Scouts.

Lone Scouts of America - The Wisconsin Agriculturist, June 6, 1925.p.1.

Edit: Here is something new in the way of arousing interest among the younger generation. The "Lone Scouts" are the boys of Rural districts and are practically the same as our well-known "Boy Scouts". Much of their time is spent in improving farm and forestry conditions. Let's put on our thinking caps, Agent, and find some ways for them to assist us in blister rust control.

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## THE PEMBROKE INFECTION AREA IN MASSACHUSETTS

Mr. Harris A. Reynolds, Secretary of Massachusetts Forestry Association recently received a set of photographs of the infected pine at Pembroke, Massachusetts, which spoke for themselves. Part of his letter follows:

"They are wonderful pictures. I am glad to say that Mr. Brockway took me over the area last Thursday and I took about 100 feet of motion pictures of the principal trees. This is the best demonstration of what the rust can do, that I have yet seen and I am a little surprised that more publicity has not been given to this area. I think that the proper use of these pictures telling where the area is to be found will do a lot of good in arousing interest in pine protection.

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A N  I N V I T A T I O N

T O  T H E  P U B L I C

- - - -

Last March, at Town Meeting, funds were voted for Blister Rust Control.

This Work is now underway in Your Town.

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YOU WILL BE INTERESTED

(1) In seeing the control methods used.

(2) In learning how the town funds are being spent to protect the pines.

(3) In becoming more familiar with this disease so fatal to pine growth.

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The Crew Foreman is staying at:

_____

Why not get in touch with him and arrange to go into the woods to see the crew at work?

New Hampshire Forestry Dept.
Concord, N.H.

Note: The above blue-print poster 19 1/2" x 13" was used by State Leader Newman. These posters are distributed by agents in each town where control work is being carried on, with the intention of encouraging a greater number of people to come out and see for themselves how the eradication work is done.

## CARETAKERS OF PINE PLANTINGS MAY BECOME VALUABLE COOPERATORS.

Several weeks ago an inspection was made of a small planting of pine set out on the watershed of the Consolidated Water Company of Utica, New York. Mr. George C. Hodges, Biologist for the Company, accompanied me on the inspection. After we had looked over the planting and found a great many red and black currants, together with a lot of gooseberry bushes, Mr. Hodges agreed to cooperate and have the eradication work done whenever we were ready. Leaving the planting we drove down to where the caretaker lived. Mr. Hodges gave him instructions to remove and destroy all currant and gooseberry bushes he found in and near the planting. The caretaker replied that there were no bushes of that sort on the place; that he had lived in the neighborhood all his life and had never seen any. He made a bet with Mr. Hodges that there were no bushes. The three of us drove back to the planting and there pointed out the various varieties of currant and gooseberry bushes to the caretaker. As a result, the caretaker apologized and showered me with all sorts of questions on blister rust, and general forestry.

Note: I find that many caretakers of private estates, watersheds, farms, etc., do not have a good understanding of blister rust, or general forest practices. When well informed on these subjects they often become valuable aids in blister rust control.

George E. Stevens, New York.

KENNETH M. WHITE.

This Office has just been notified of the death of one of our best scouts and educational agents, Mr. Kenneth M. White, after an illness of about six weeks. Mr. White was an ex-service man, being a member of the American Legion of Sanford. He was a graduate of the Newport high school, class of 1917, and a student at the University of Maine. He has been employed on blister rust control work in Maine, during the summers, for the past two years. His death will be deeply felt by all who have been associated with him.

## A POSTER CONTEST.

Farm Bureau Agent, L.E. Allen and Blister Rust Control Agent, Ben Nichols organized a poster contest among the rural schools of Clinton County. No school where drawing is taught was allowed to enter the contest. Contestants had the opportunity of choosing as a subject for the poster, Reforestation or Blister Rust Control. There were about 52 entries. Four school districts participated in the contest. The prize for the best poster in the county was $10. There were five prizes for each school district. There were more posters on reforestation than on blister rust control but a blister rust poster won the first prize in the county; the work of a boy 12 years of age.

No less than 40 homes were represented in this contest. 21 girls and boys received prizes. Teachers and the district superintendents took a very active interest in the contest. While the results of this contest cannot be accurately measured, the fact that the majority of the posters were original, carefully planned and executed, and the large number of contestants, is indicative of the wide spread interest in forest conservation and blister rust control. Here is a very splendid avenue of approach to white pine owners and owners of idle land.

H.H. York.

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## EARLY DATE FOR TELIA OF CRONARTIUM RIBICOLA.

Agent R. O. Gould has sent to the Washington Office, two gooseberry leaves infected with blister rust. Both of these showed spots of uredinia, while the smaller leaf, one-half inch in diameter, showed a few scattering telia. This (June 8) is quite an early record for this stage of the rust.

Edit: Has anyone an earlier record for telia for this year?

WEEKLY ITINERARY REPORTS MADE MORE INTERESTING.

Mr. C.C. Perry, State Leader in Massachusetts, writes under date of May 20: -

"One of our agents, Mr. Doore, has been following the practice of entering on the reverse side of his weekly itinerary report certain notes relative to special interviews, meetings, infections, etc., in which he thinks the State Leader might be particularly interested. It seems to me that this is not a bad idea.

It is, of course, simply using the space for additional information which cannot be entered in the column headed "results obtained". It occurs to me that it is a simple method of permanently recording certain points that might otherwise be overlooked. I commend it to other Massachusetts agents."

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Edit: This is a very worth while suggestion, and is recommended to agents in other states as well as in Massachusetts. Several agents in New Hampshire have been doing this for some time. The Editor of the News picks out of the Weekly Itineraries many bits of interesting news.

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WESTERN WHITE PINE ACCELERATES RATE OF GROWTH AFTER CUTTING

Missoula, Mont.--Recent studies by I. T. Haig of the Priest River Forest Experiment Station show that the growth of western white pine trees left standing after logging is accelerated as the result of such liberation. On several old timber sales in the Coeur d'Alene National Forest, in northern Idaho, this increased growth was found, and was noted to be greater in the small trees than in the larger ones. Where trees were slightly lacking in health and vigor, however, there was less response. Throughout, Mr. Haig found that the response was less aggressive than that of western yellow pine. Acceleration in western white pine evidently begins two years after cutting and continues at least as long as 15 years, the age of the oldest cut-over area studied.

## CONVERTING A VIOLATOR OF BLISTER RUST QUARANTINE 26 INTO A FRIEND.

A certain superintendent of schools in Minnesota unwittingly violated a quarantine regulation in sending 35 currant and 15 gooseberry plants from Minnesota to Casper, Wyoming. At the time of writing the superintendent, a number of circulars and posters were sent him, together with a statement that the blister rust had been found in neighboring counties.

He writes: "I have received circulars and have had my agricultural instructor post them and talk to his classes about them, and I have also talked to my commercial classes about them. The plants I sent were returned and I gave them to my son. It is strange our agricultural man did not know of this law".

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## WATERPROOFING OUR POSTERS.

The following experiment was tried at the Washington Office with the idea of getting more service out of the yellow paper poster:

BLISTER RUST IS HERE

STOP! LOOK!

The posters which are 10 by 30 inches, printed in black on yellow paper, had been found somewhat unsatisfactory. Therefore in order to waterproof them we tried orange shellac on one and varnish on the other. The posters were left out of doors for about a month, subject to snow, rain, and windy weather. Both posters at the end of the experiment were in good condition; but the varnished one had the better appearance. The one coated with shellac was streaked and had a dirty orange-brown appearance.

WANTED - WILD BLACK CURRANT LEAVES.

The writer would be glad to receive from as many localities as possible, specimens of leaves of the eastern wild black currant (Ribes americanum Mill.) Five or ten leaves from each locality are desired, with name of collector, date, and place of collection. The leaves should be dried between newspapers or blotters and sent with above data to the Washington Office.

In the Blister Rust News for October 15, 1924, on page 4, appeared a short article on how to distinguished the cultivated black currant (Ribes nigrum) from the Eastern wild black currant (R. americanum). It was stated that resinous dots appeared on both sides of the leaves of R. americanum and only on the under side of the leaves of R. nigrum.

Since writing this, collections of R. americanum have been received from Colorado, through the kindness of Prof. E. Bethel, in which there were some leaves of R. americanum which did not have resinous dots on the upper leaf surfaces; and the writer is very desirous of securing specimens of this currant from as many parts of the country as possible in order to continue and finish his study of this interesting leaf character.

R. G. Pierce.

HAVE YOU TRIED THIS ONE ?

Give everyone a ride along the road and see how many interesting blister rust conversations you are able to strike up. Some are likely to object to this on the ground that they may be robbed or knocked on the head by the recipient of the ride, but every blister rust agent knows that he never has enough money to make it worth while for anyone to rob him.

I have always made it a point to pick up pedestrians while travelling in the country, being especially watchful for those who from their appearance I judge to be farmers. On a hot day in summer or a cold day in winter, there is nothing which will make a weary walker love you quicker than those blessed words "Care for a lift?" Conversely, there is nothing which will make him sorer then, or the next time he sees you, than to have you go putt putting right by throwing dust or mud in his face.

Through considerable practice, it usually takes me about half a mile to drift into a conversation of what I am doing in that particular locality; how much blister rust there is; who has cooperated, etc., etc. Those agents who try this practice with the particular intention of talking blister rust will find that their companions are almost invariably interested, and will begin to question them about various phases of the work. The result is that the agent has an opportunity to give a lot of ideas and information to a willing listener, and the listener gets down from his ride with the conviction that he has met a fine good-hearted fellow. He will cooperate with the agent and aid his work.

Errol E. Tarbox - York County, Maine.

PINE INFECTION AT WARRENSBURG, NEW YORK

Mr. S. B. Detwiler, under date of June 16 wrote of finding blister rust infection on young pine growth at Warrensburg:

"Practically all young pine growth up to 10 feet high, throughout the woods along wagon road to McPhillips' infection area, is infected with rust cankers on 1922 wood. Some little trees have 6 - 12 cankers, just showing up well. Same conditions exist more or less along path toward beaver dam."

Mr. Detwiler sent in six leaves of skunk currants collected at Warrensburg, with rust infection on them. An examination with hand lens revealed the fact that the blister rust (Cronartium ribicola) was present on each of the 6 leaves with from 1 to 3 centers per leaf, while the cluster cup rust (Puccinia sp.) was present on 4 of the 6 leaves in small spots, one spot to the leaf.

Note: To the casual observer the cluster cup rust may easily be mistaken for the blister rust. R.G.P.

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NOTES FROM THE WESTERN PLANT QUARANTINE BOARD.

At the Seventh Annual Conference of the Western Plant Quarantine Board at Boise, Idaho, July 11 - 13, Mr. C.R. Stillinger of the Spokane Office spoke on "The White Pine Blister Rust in the West."

A report from Mr. Stillinger on this meeting quotes the following resolution passed by the Quarantine Board:

> "In view of the importance of the cultivated black currant in the distribution of white pine blister rust and further due to the fact that an actual campaign to eradicate this plant is being carried on in the several western white pine states, be it resolved by the Western Plant Quarantine Board in session at Boise, Idaho, on June 11-13, 1925, that the Federal Horticultural Board pass an embargo on the movement of all cultivated black currants into all of the pine growing states; so that the interstate movement of these plants into pine growing states may be controlled".

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## BLISTER RUST IN PINE LOT PREVENTS SALE.

### Purchasers of Pine Woodlots Have Learned to Watch for Infections.

In our work among white pine owners we meet with a great variety of attitudes toward blister rust control, but the one mentioned here is new in the writer's experience. Mr. A. is a gentleman trained in the legal profession but is more deeply interested in buying and selling potential forest land. He owns a tract of a few hundred acres of young white pine which he desires to sell. There is much blister rust in a part of this lot. Apparently he has never been interested in blister rust control or at any rate he has lead others to believe that this is the case. He was about to sell his tract of white pine and the deal was almost closed when the prospective buyer refused to purchase the lot because of the presence of blister rust.

The above facts were unknown to the writer when he interviewed Mr. A. a few days ago. This gentleman complained that there was too much publicity given to blister rust control work. This was taken at first to mean that he was hostile to blister rust work. However, it was soon quite apparent that he was very much alarmed about the disease in his woodlot, although he would not openly express his fears. He spoke about wanting to find a buyer for his pine. The writer suggested to him that blister rust was becoming widely known and that anyone interested in buying young white pine for an investment would be very likely to first investigate it for blister rust.

In the conversation it was also discovered that the owner had great respect and unbounded confidence in one of our foremen. It was suggested that he ask this foreman to look over the woodlot with him and take charge of eradicating the Ribes. He immediately stated that he would do that because he

could trust the foreman mentioned to keep his mouth shut. Thereupon the writer asked him what he meant. He said: "Whenever there is anything wrong with my cattle or anything else on my place, I keep my mouth shut about it because it doesn't do me much good to tell people what my troubles are". He then stated that he did not want anyone to know that there was blister rust on his farm and that he proposed to eradicate the currant and gooseberry bushes as soon as he could get the foreman mentioned. It is needless to say that the foreman will be released whenever Mr. A. wants his services.

H.H. York.

## SOFTWOODS FORM BULK OF LUMBER SUPPLY.

The Forest Service points out that two-thirds of all lumber consumed in the United States is softwood-pine, fir, spruce, and hemlock. It is further stated that there are only three great bodies of coniferous timber in the world outside of the United States. One is in Canada, a second extends from Scandinavia eastward through Finland and European and Asiatic Russia to the Pacific Ocean, and the third, of relatively minor importance, is in central and southeastern Europe, chiefly in pre-war Austria-Hungary.

Pine and more pine is needed to supply our extensive lumber demands. Every acre of land not fit for agriculture should be raising timber of good quality and of high potential value.

TAME COPY WON'T TAME FOREST FIRES

Is the title of an article in Printers' Ink, for December 4, 1924, by Colonel W.B. Greeley, Chief of the U.S. Forest Service.

He writes: "During the last four years the Forest Service has been learning something about the business of advertising. Our experience has taught us that we can't tell such a colossal story or state the terms of such a gigantic problem in a few words printed on small posters. It is not enough merely to post the forests with fire warnings. That helps, of course; but to prevent forest fires the majority of the men, women and children of the country must be furnished with a reasonably complete knowledge of the vast preventable drain on one of our most valuable natural resources and its close relationship to their welfare and happiness. The story of forest fires must be told vividly, impressively, dramatically and repeatedly. It must be translated into the terms of the people and of their daily living.

Does the average man who builds a house today know that the preventable forest fires of the last few years have added several hundred dollars to the cost of the structure? I think not. Neither does the woman who buys a piano or a set of furniture realize that an appreciable part of the price she pays is a tax levied by the same waste. Every board, every wooden packing box and crate, all furniture and every product made of wood is costing more today because forest fires destroyed approximately 21,000,000 acres of standing timber in 1923, and have destroyed an average of more than 7,000,000 acres a year during the last quarter century."

Edit. Hasn't the above got a good point in it for our educational work on blister rust control? We don't need to exaggerate the damage being done. What we need to do is to tie in the necessity for control with the every day life of the community.

## POSTERS AND TAGS

The Washington Office still has available a quantity of the tags and posters, such as were distributed last spring. The number available for your use is given below. Send your order to the Office of Blister Rust Control, Washington, D.C.

| Poster No. | Legend | Size in inches. | Number Available. |
|---|---|---|---|
| 1 - | LOOK! BLISTER RUST AHEAD | 22" x 28" | 1600 |
| 2 - | BLISTER RUST KILLS WHITE PINE | " " | 1200 |
| 3 - | PROTECT YOUR PINE FROM BLISTER RUST<br>By pulling up all currant and gooseberry bushes growing within 900 feet. | " " | 1150 |
| 4 - | BLISTER RUST CAN BE CONTROLLED<br>Communicate with: _____ | " " | 1200 |
| * 5 - | BLISTER RUST IS HERE. STOP! LOOK! | 10" x 30" | 0 |

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| Tag No. | | | |
|---|---|---|---|
| 1 - | BLISTER RUST KILLED THIS WHITE PINE | 3 1/4" x 6 1/2" | 1000 |
| 2 - | BLISTER RUST IS KILLING THIS WHITE PINE | " " | 46000 |
| 3 - | THIS IS A BLISTER RUST CANKER | " " | 65000 |
| 4 - | THIS WILD CURRANT BUSH SPREADS BLISTER RUST | " " | 3500 |
| 5 - | THIS WILD GOOSEBERRY BUSH SPREADS BLISTER RUST | " " | 7000 |

* Will order more of Posters #5 if there is call for them.

R.G. Pierce.

## QUESTIONS AND ANSWERS

Q. - Can a high percentage of ribes, especially skunk currants be eliminated at the time of the first working of an area where they abound?

A. - What I am going to say here in answer to this question is, of necessity, somewhat general in character, yet it is founded on facts obtained through personal observation and from several of my foremen.

This year, during several of my inspection trips, I have paid particular attention to the checking of last year's eradicated areas. I am intensely interested in the question of our ability to eliminate a high percentage of the skunk currant the first working of an area. While the checks herein submitted indicate the presence of gooseberry bushes in the areas worked, the bushes are, with one exception, mostly skunks. I have been greatly surprised at the very high percentage of bushes the crews have been able to eliminate. It has always been my feeling that the skunk currant is our most difficult bush to keep out to a satisfactory degree, owing to its ability to sprout from a small section of the root, but after securing these checks I feel a great deal more optimistic about this question.

Summary of checks made

| Size of area | Bushes destroyed original working | Number found on check |
|---|---|---|
| 2 acres | 1000-1500 gooseberry | 4 |
| 15 " | 2000 gooseberry and skunk currants. | 15 sprouts from broken roots of skunks |
| 15-20 acres | 600 " " " | 2 sprouts " " " |
| 3 " | 5000-6000 skunk currants | 2 " " " " |

I realize that this is a comparatively small number of checks upon which to base judgment, but they were made in company with the selectman who worked with the crew when the work was originally done. He expressed himself as amazed that so few were found. The conditions under which these bushes were pulled were difficult.

The method used in attacking a skunk currant area is as follows: The men are cautioned to work slowly into the skunk currant area pulling the bushes ahead of them, rather than to allow them to jump right into the heart of the area. This prevents stepping on the bushes forcing some of them into the soft ground and causing many to be missed. After the area has been gone over once, it is immediately checked over again, the position of the men in the line is changed for the purpose of giving them new ground to look over. They are more likely to be on their toes as they are checking the other fellow's territory than they would be if they rechecked their own sections. The same plan is followed in pulling other classes of ribes when they are found in abundance. To my mind it insures

the very best class of work.

I should like to hear from others on this question. I, personally, feel quite optimistic on the question. I might also add that these checks bear out my observations made while checking crew work.

Thos. J. King
Merrimack County
New Hampshire.

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Q. - The white pine box-board industry has been very hard hit the last year or so due to the increased use of the paper box. At present white pine for box board use seems to be drug on the market. Is the decreased value of white pine stumpage of box-board size temporary, or will it be permanent and hance necessitate the growing of white pine say in 60 year cycles?

A. - Upon inquiry at the Forest Service at Washington, it was learned that the depression in the wooden box boards was somewhat general in the East but it is pointed out that this depression might be seasonable for there were frequent fluctuations in the industry. No one can say that the decreased value of white pine stumpage of box-board size is permanent. It might be found to be a blessing in disguise for there is a growing demand for timber of larger sizes with consequent higher value per thousand feet.

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Q. - The present supply of pulp wood material will be depleted before many years. Do you think it will be possible in some future date to make use of white pine for the production of paper?

A.-- Very likely at some future date it will be possible to use white pine for the production of paper; perhaps not for newsprint paper but at least for kraft paper. At present the production of paper from white pine is too expensive.

## PERSONAL

On June 27, Dr. L.H. Pennington wrote from St. Paul, Minnesota, that Ribes infection seems to be wide spread in the Rush Lake region and to be coming on rapidly this moist weather. The season promises to be favorable for the rust to spread and intensify upon Ribes. A pine infection center which evidently has not been known of before was located near Spring Vale.

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Dr. Pennington and Mr. Ninman visited the Elks Mound area in Wisconsin on June 29, and found pine infection and abundant Ribes infection. There was also some infection (two generations) found on R. americanum. This is interesting as Ribes americanum is considered a fairly resistant species. Mr. Posey, who has recently returned from Wisconsin, found infection rather heavy upon Ribes triste, R. glandulosum and R. hirtella at Deer Park.

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Dr. Henry Schmitz, Professor in Forest Products, School of Forestry, University of Idaho has been appointed head of the Forestry Department of the University of Minnesota. Dr. Schmitz has been associated with blister rust control work in Idaho as State Leader, and has been very much interested in the general blister rust control program in the West.

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Mr. S.B. Detwiler visited several areas of heavy blister rust infection in New York and New England with Dr. W.T. MacClement. He returned to the Washington Office on June 27.

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Mr. G.B. Posey reports that he had a good trip visiting the demonstration control areas in Wisconsin and New York. G.B. returned to Washington on June 30.

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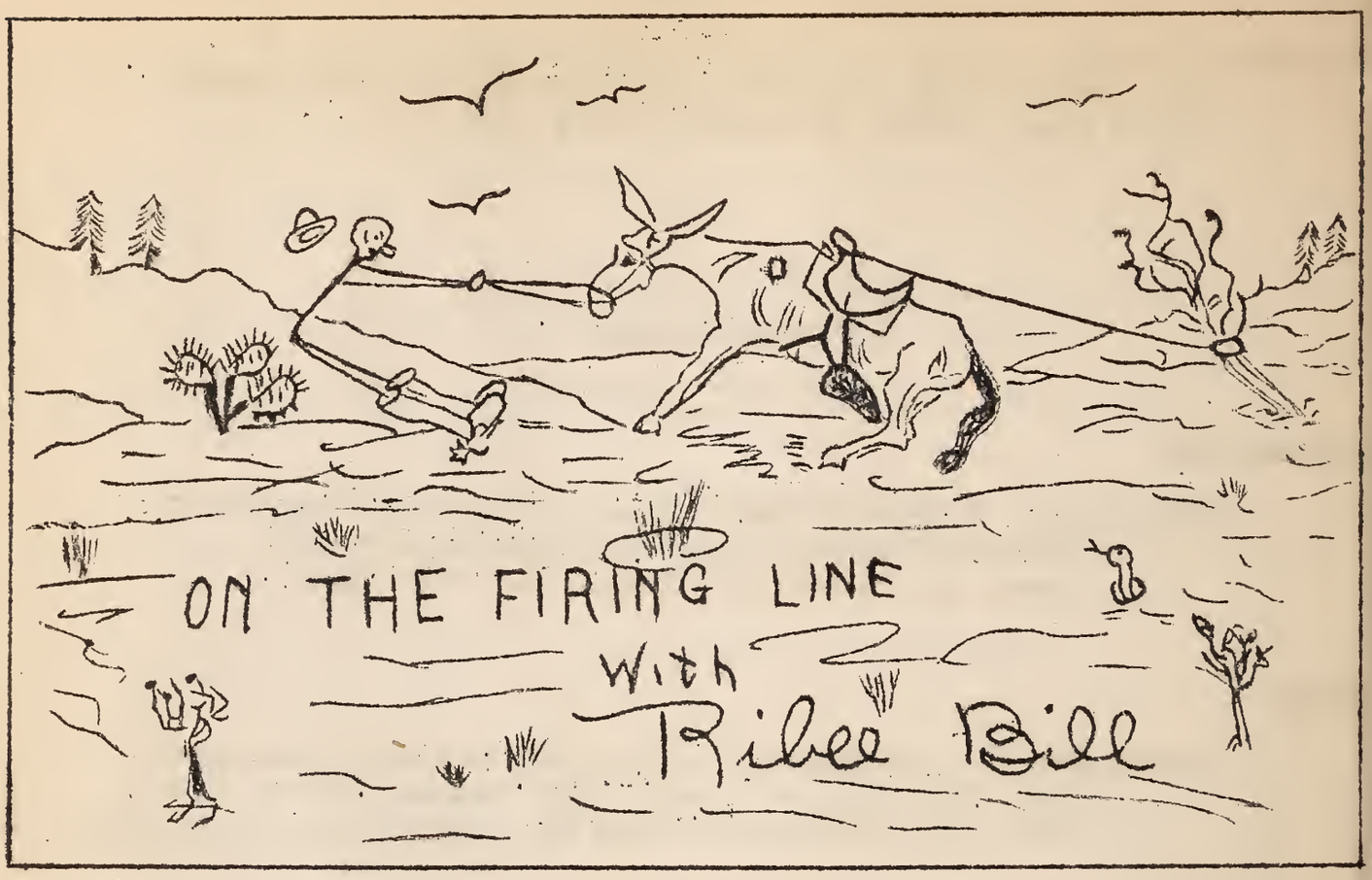


North America, which contains one-twelfth of the world's population, uses more than one-half of the lumber production of the world.

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The area in the United States which was once covered with timber, but which is now completely cut over, is equal to the combined area of the states of New York, Pennsylvania, New Jersey, Delaware, and Maryland.

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There is scarcely enough merchantable timber left in Strafford County, N.H. to maintain Rochester's box factories in operation for three years. A large part of the timber now used is imported. 47% of the land area of the county is either waste or inferior growth.

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According to the returns of the United States Census Bureau for the year 1921, New Hampshire ranked second in the production of white pine lumber.

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# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE
Office of Blister Rust Control.

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D.C.

# THE BLISTER RUST NEWS.

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 9, No. 8 EXHIBITS NUMBER Aug. 15, 1925.

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Hello Agent!

The Fair season is just about ready to open, and 'twixt squealin' pigs and cacklin' hens blister rust control must take its rightful place. Sure it belongs at the fair - aren't pines crops - doesn't every farmer have 'em? If he hasn't, what would you think he'd give for 100 acres of white pines, all Ribes-free, with clean trunks from 12 to 14 inches in diameter? Why them's timber trees, not just box-board stuff. I'll bet he'd give several shoats and some old roosters and throw in his old hat for that pine. Now Agents, aren't we tryin', tho indirectly, to help that farmer get his 100 acres of pine, and isn't that a man-sized job?

Why jest think, Agent, if you had that 100 acres of big pine you could cut on an average of from $500 to $1000 worth of timber every year!!

Yours for more pine,

Ribes Bill

## AN UNUSUAL EXHIBIT ATTRACTS ATTENTION

An exhibit, to produce results, must in the first place attract immediate attention. To do this there must be something unusual about it; something realistic, or perhaps even out of place. In the case of a large fair, the problem of attracting the attention of the passer-by is the real problem. For with so much to see, the tendency is to keep on the move until something special justifies a stop.

In an effort to stage something unusual at the Eastern State Exposition at Springfield, Mass. last year (1924) Agent Wheeler and his assistants endeavored to reproduce a typical pasture scene - certainly something unusual in the midst of booths advertising stoves, cereals, washing machines, etc.

The exhibit was built on an incline so that it could be seen for a considerable distance. In the foreground a very neatly constructed stone wall and natural old pine bar-way "took the eye" of everyone and they came over to see what it was all about. The boards which made the incline were covered with sod, moss and an occasional rock to resemble a pasture. Along the stone wall and near the rocks were anchored a few wild Ribes typical of the locality. In the background came the white pines, only a few, but those which were used represented all stages of infection, including one fairly large dead tree to tell THE FINAL RESULT.

The scene was really a picture in itself, and rather than spoil the effect, only a very few signs were used. On the bar-way in front hung the now familiar "BLISTER RUST -- HERE IT IS", while almost in the center of the sodded space one fairly large sign telling the story of the dual hosts was

placed in as natural a position as possible, leaning against an old weathered stick. On the infected trees, arrows with the words BLISTER RUST were adjusted to point to the place of infection and on the Ribes small neat labels were hung for purposes of identification.

All the signs used were of the "blue printed" type and as such they attracted the eye of the observer from the distance. The real point was they were different, nothing like them anywhere on the show grounds.

Our friend Sheals in commenting on this exhibit is quoted in the September 1924 BLISTER RUST NEWS as follows: "Perry had the best Blister Rust exhibit at Springfield that I have seen." This comment was appreciated, but the credit belonged to Agent Wheeler and his assistants, Messrs. Craig, Gibson, and Lewis.

Plans are now being made to stage a similar exhibit this fall, but on a much larger scale, provided suitable space is made available.

See photograph of this exhibit in this number after page 16.

C.C.Perry - Mass.

VALUE OF THE LYME ROADSIDE INFECTION AREA AS A SILENT WORKER

The infection area at Lyme, N.H. was studied in the fall of 1923 and found to be 70.6% infected. While a large percentage of the cankers occur on the branches, there are a few trunk lesions in this lot so that those interested may see the whole story of what blister rust will do to the pine.

In May 1925 a part of the trees in this area were tagged with the yellow tags and signs placed at each end of the lot reading as follows: "Blister Rust is Here. STOP! LOOK!" While it is impossible to say how many have visited this area I am certain that a great many have looked it over for on a number of occasions I have found four or five parked cars at the entrance of the lot. A number of pine owners have mentioned the area to me and asked questions regarding it. I feel that there should be more areas of this kind laid out on well traveled highways, as this one is certainly a silent worker and is obtaining good results. A sign just inside the area tells the following story:

THE LYME INFECTION AREA.

Tell others of its location on the Dartmouth College Highway in Lyme, N.H.

In 1911 - NO BLISTER RUST HERE 100% Healthy
In 1917 - 10.7% of pine infected 89.3% Healthy
In 1925 - 70.6% of pine infected 29.4% Healthy

Yellow tags mark some of the infected trees.

See trunk infection on 26 year old tree - - Follow the arrows.

Geo. F. Richardson, Jr.
New Hampshire.

## LOCAL MATERIAL ALWAYS ATTRACTS INTEREST

In the matter of exhibits at fairs, the best drawing card is material collected locally. While specimens of blister rust on pine and Ribes, no matter where obtained, have great educational value; and while pamphlets for distribution and illustrations are good, disease specimens from the locality bring the lesson home as nothing else will. Build the exhibit around the local material. Have some outside material for comparison, and don't have too much of anything. A small exhibit of well chosen specimens is less confusing to the observer.

Herbert J. Miles, Conn.

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## LARGE SPECIMENS OF BLISTER RUST THE BEST

My best attractions at fair exhibits have been samples of trunk cankers from good sized trees. These should be from trees at least 12" D.B.H. and larger if possible. The samples should be from a local woodlot, with the name of the owner. You will find the question "Where did this come from?" asked more than any other.

D.S. Curtis, Maine.

SYSTEM

Some fellows get an over-dose of system. Some never get any. Others cry for it but can't get it. But to those who are overcharged with system, an office copy of a highly detailed plan of work is a sacred thing. These individuals do not need to go out into the field and study actual conditions there. Field conditions mean nothing to them. Field conditions must fit the office-planned system. If not, then they must be changed so that they will.

It is not my purpose to condemn a good plan of work. There must be a careful, continual planning for the best results in any work but we do not want to rely on the plan itself to produce results. No general can win his battles in the office. He must know conditions by living on the front. There is but one way for us as leaders to follow, no matter who we are and how few the men we lead, we must live on the front lines of blister rust control.

Anon.

BLISTER RUST FROM CULTIVATED RIBES, NOT ICE CREAM WATER, CAUSES DAMAGE TO PINES.

"Day before yesterday I answered a request for examination of a pine grove in E. Lincoln, some fifty miles north of Bangor. Found a couple of limb infections and heavy infection on a red currant (cult.) and on a cultivated gooseberry. Damage reported by owner due to ice cream water, and heavy travel through grove".

W. O. Frost.

PLUGGING GETS RESULTS

"It can't be done" - - This remark was made at a blister rust conference several years ago when someone asked the possibility of obtaining individual cooperation in Ribes eradication in Vermont. The blister rust control agents now employed in this state have proved it could, even on the basis of the pine owners paying all costs. To Vermont goes the record of being the first state to complete the first eradication of Ribes in one of its districts, after three years of effort. Agent Bradder will be transferred from Caledonia to Rutland County about the first of August.

The results obtained by Bradder have not come easy. The first year it looked as if the agent would be frozen out, but when he got a foothold in the district and obtained the confidence of the people, the securing of cooperation became a regular procedure. Ribes were abundant and the eradication costs average for the locality. A local appreciation of the value of white pine, and the opportunity to show individuals heavy pine infection, such as is found in the Waterford area were of great assistance.

With the experience gained in Caledonia County, he is sure to make even better progress in his new district. Good luck - - Bradder.

E.C. Filler.

CONSTANT ADVERTISING.

One step won't take you very far,
You've got to keep on walkin';
One word won't tell folks who you are,
You've got to keep on talking;
An inch won't make you very tall,
You've got to keep on growing;
One little ad won't do it all,
You've got to keep them going.
A constant drop of water
Wears away the hardest stone;
By constant gnawing, Towser
Masticates the toughest bone;
The constant cooing lover
Carries off the blushing maid;
And the constant advertiser
Is the one who gets the trade.

Boonville Herald
Boonville, New York.

Edit: The above may not seem at first sight to relate to exhibits and blister rust control work. If you look deeper, however, and think a little you'll see that placing an exhibit of our work in a window, or at the local fair, or staging one along the road, is just one of the ways of "Constant Advertising" which brings results.

## RESULTS SPEAK FOR THEMSELVES

Comparison of results accomplished in cooperative Ribes eradication in Northeastern States between years 1923 and 1924.

| | 1923 | 1924 | Percent of Increase or Decrease. |
|---|---|---|---|
| No. Acres Eradicated | 892,639 | 1,008,042* | +12.9% |
| No. Wild Ribes Pulled | 7,969,917 | 9,466,271* | +18.7 |
| No. Cult. Ribes Pulled | 55,074 | 73,858 | +34.1 |
| Cost of Ribes Eradication | $160,883.87 | $169,175.52 | +5.1 |
| Cost per Acre (average) | $0.181 | $0.167 | -7.7 |
| Ribes per Acre (average) | 8.9 | 9.4 | +5.6 |
| No. Cooperating Towns | 122 | 148 | +23.8 |
| Amt. Town Appropriations | $36,380.00 | $48,024.87 | +32.0 |
| No. Individuals Cooperating in Eradication of Wild Ribes | 1968 | 3059 | +55.4 |
| Amt. Paid by Cooperating Individuals | $40,969.47 | $45,026.37 | +9.9 |

* Does not include 4944 acres cleared of 151,487 wild Ribes in the White Mountain National Forest.

E.C. Filler

BLISTER RUST DAMAGE SHOWING UP IN THE BERKSHIRES.

Mr. L.W. Hodgkins in letter of August 5, depicts conditions as he saw them recently.

"I had an opportunity to look over one of the areas that Dr. Pickler and myself examined in 1920; and can note a big change in conditions in relation to blister rust damage of pines. This was in the town of Tyringham, where we examined young pines from three to nine or ten years old; and found no infection on the small pine, and only an occasional one on the larger trees. Mr. Endersbee and myself recently looked over the same area; and without making an exact study, I would say that approximately 50% of the pines now alive are infected with blister rust, and there are also many trees which have died from the rust. In 1920 the Ribes were heavily infected; and taking this fact into consideration, at that time we were surprised not to find the disease on the pines. That the pine did not show infections at that time is no doubt due to the fact that 1920 was the first or second year that the Ribes had been diseased.

Blister rust on pines is pretty general through the section which I have covered, since I have been here. There are also plenty of Ribes here to keep the rust active. I have covered roughly speaking about 11,000 acres, and find Ribes pretty well scattered, but not abundant except in some cases. There is a good bit of area that can be eliminated."

L.W. Hodgkins.

## FACTORS TO CONSIDER IN EXHIBITS

In presenting an exhibit at a fair it seems there should be three factors under consideration.

A. Attention:

Have something original as well as natural to call attention. Some unique design or display such as, a booth representing nature as nearly as possible.

B. Interest:

Have your display so it will hold your customer's interest. Such as, have blister rust specimens whole pine trees with their dead, dying, and green limbs. Also some dead tre s killed by the rust and some green specimens of infected Ribes in all stages as nearly as possible. Contrast is good for holding attention and interest.

C. Action:

Be sure that your demonstration is simple as possible and original in all respects. Simplicity is the keynote of all demonstration talks.

John MacG. White
Maine.

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## CONFERENCE PROCEEDINGS OUT.

The Report of Proceedings of the Tenth Annual Blister Rust Conference held at Washington, D.C., Feb. 18 to 23, 1925 has been sent out to each of the permanent field employees. If you have not received your copy, write the Washington Office for it.

## PROGRESS OF CONTROL WORK IN THE WEST

## DURING JULY.

### 1. Cultivated Black Currant Eradication.

California: Mr. Root reports work being carried on in Plumas, Sierra, Nevada and Sonoma Counties. 41 plantings, representing 229 bushes, have been eradicated.

Oregon: Mr. Goodding reports Josephine, Jackson, Union, and Umatilla Counties as complete, and Klamath and Wallowa are now being worked. 55 plantings, representing 235 bushes have been eradicated.

Washington: Bartow reports Douglas County as completed, with the men working in Okanogan County. 4 plantings, representing 18 bushes have been eradicated.

Idaho: Stephens reports Twin Falls County as practically completed. 172 plantings, representing 774 bushes, were eradicated in July.

Montana: Johnson reports Fergus, Yellowstone, Musselshell and Golden Valley Counties as completed. 10 plantings, representing 46 bushes, have been eradicated.

### 2. Ribes Eradication.

Upper Priest River, Idaho: during July, 2162 acres of land in the Upper Priest River Valley were cleared of wild Ribes. 166,160 Ribes were pulled, making an average of 77 bushes per acre, this constituting a sharp increase over the 35 Ribes per acre encountered during June.

Ribes eradication work has been seriously interrupted during July by forest fires. 236 man-days have been devoted to fire fighting work.

Oregon: during July, 734 acres were worked on the experimental Ribes eradication project in southern Oregon. The principal Ribes species encountered were Ribes sanguineum and Ribes lacustre, the average number per acre being 31.

### 3. Blister Rust Reconnaissance.

Idaho: 4 parties of two men each are working on the Kaniksu and Coeur d'Alene National Forests. On the Coeur d'Alene Forest, 3 sections have been intensively reconnaissanced, with similar work under way in 5 other sections. Extensive reconnaissance has been conducted on 36 other sections. On the Kaniksu Forest, 6 sections have been completed, with work under way in 7 other sections.

4. Experimental Chemical Eradication.

Mr. Offord reports that the work near Wallace, Idaho, was completed on July 8, and the crew moved to Santa, Idaho. Near Wallace, 3 one-acre plots were treated with various chemicals. These three plots contained 682 Ribes bushes, or clumps of bushes, representing 56,718 feet of Ribes live stem.

At Santa, Idaho, 3 one-acre plots have been established, and the preliminary data taken on the Ribes present. They are now being treated with various chemicals. Plot 1, alone, at Santa contains 3364 Ribes. The chemicals being used include caustic soda, common salt, sodium bromide, sodium fluoride, sodium tetraborate, mercuric chloride, and certain commercial weed-killer compounds.

5. Ecological Study.

During the present season, 18 areas have been studied and complete data taken in the plant census study, designed to determine the stage at which Ribes reinvade burns. In addition, work is being conducted on such factors as soil temperature, soil moisture, chemical character of soils, and other such factors of possible value in determining the Ribes occurrence. A study on relation of leaf area to foot of live stem is also under way.

Stephen N. Wyckoff
Associate Pathologist.

BLISTER RUST IN WESTERN WISCONSIN.

Mr. W.C. Thompson, who has been working with Mr. Ninman in Wisconsin, writes of his work in that state under date of July 23:

"We finished the Eau Galle Area field work on July 11. Since then we have found Ribes infections in about 15 different places: 1 pine diseased in a new location; and yesterday we found 150 young pines infected and many of them dead. The oldest infection was probably 5 or 6 years old. The disease on pine was spread over 15 acres in the center of Polk County about 3/4 mile east of Range."

NOTES FROM MAINE.

W.O. Frost (June 25) writes, "Have an appointment with Ex-Governor Baxter Friday P.M. to look over his island estate at Portland for blister rust.

Edit: Jack, you never wrote us what you found on the island - We're interested.

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July 7. "Boys camps are going full blast and inquiries are coming in for forestry literature including blister rust. We need that new colored folder."

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July 7. "County Agricultural Agent Donahue, of Waldo County, wished me to examine a pine plantation in his county located at Thorndike, owned by a Mr. Small. I made the examination recently and found that this small planting of 2500 white pine made 11 years ago is becoming badly infected. Infection caused by many wild gooseberries along a stone wall, and in a run. These pine are putting on wonderful growth - - - - but many are done for. Mr. Small will eradicate the Ribes and cut out the diseased trees.

W.O.F.

RIBES ERADICATION PROGRESSES IN MAINE.

Mr. Frost has just submitted a summary of the cooperative Ribes eradication work carried on in Maine during May and June. During these two months 426 pine owners cooperated in the eradication of Ribes on 9,420 acres at an average cost of 54¢ per acre.

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## BLISTER RUST CONTROL TIED IN WITH AMERICAN FOREST WEEK.

Mr. E.M. Brockway, Agent in Plymouth County, Massachusetts, did a good job in a recent article in the Plymouth County Farmer in closely associating the idea of blister rust control with that of the observation of American Forest Week. He writes:

In the recent proclamation of President Coolidge designating "American Forest Week," he said in part - - "Our industries, our land owners, our farmers, all our citizens must learn to treat our forests as crops" and "we must learn to tend our woodlands as carefully as we tend our farms." That means protection. If we are to continue to harvest the products of our forests, we must protect the growing trees just as we protect our garden plants and, in the case of the white pine forest, that means protection of the trees against this serious plant disease - - blister rust. The owners of pine-producing lands can do their bit then by going over their property at their earliest opportunity and destroying the currant and gooseberry bushes which are the means by which this disease is spread. These bushes will be found in moist situations in the woods, in old brushy pastures, or along stone walls. If you need assistance, get in touch with the local blister rust control agent through the Plymouth County Farmer and he will be glad to assist you with your problem of protection.

The Plymouth County Farmer, No. 7, p. 1, July 1925.

## BIG SPECIMENS, STRIKING POSTERS, AND GOOD DAMAGE PICTURES GET THE INTEREST

For the small fairs this year it is my plan to work up an exhibit which I shall be able to place on my car. It will consist of a number of good specimens of trunk and branch infections and a few wild Ribes with infected leaves, placed in such a way as to show that the Ribes are the cause of the infections on the pines. I will also use some striking posters and a few pictures showing the damage being done and a few charts giving data on infection areas which have been studied in the state.

I feel that it is very important to have infected pine, and trunk cankers more than anything else. For the large fairs I shall try to work up an exhibit on the same idea and will add to it depending on the available space. Often I have used a map showing the location of pine infections in the district or a sign something like this to hang over the exhibit:

> OVER 1000 NEW BLISTER RUST INFECTIONS LOCATED IN ONE TOWN IN THIS DISTRICT THIS YEAR * * WAS IT YOUR TOWN OR YOUR PINE LOT ? ? ?
>
> ASK THE AGENT ABOUT IT.

Geo. F. Richardson, N.H.

## LET GEORGE DO IT.

It is often poor policy to depend upon "George". But after all it all depends upon how you work him. Some of our agents who are most successful with their meetings put up very few notices or posters advertising them. First of all they secure the moral support of one or more individuals in the community where they wish to hold a meeting. This may take time, even a year. When the right time arrives the agent lets it be known that he can put on a talk with motion picture films on blister rust and forest conservation, if it is wanted in the community. This is done in such a way that a request is made by some one in the community for the "show". The responsibility for getting the people out at once falls upon this individual. The agent then furnishes notices of the meeting, etc., and someone does the rest. It has worked every time.

Agent Nichols had over 800 at one of his meetings sometime ago and he never placed a poster. But another individual, who got the idea it was his meeting, just the right idea too, spent one whole day in the rain and sleet putting up notices and calling on people.

This plan of organizing a meeting is not new, but it is new to some of our leaders and blister rust control agents, for some have not tried it.

H.H. York.

## BLISTER RUST INSPECTION IN MICHIGAN

The blister rust has not as yet secured a foothold in the old pine regions of Michigan, that is, in the upper half of the lower peninsula, and in the upper peninsula; but it has been found in past years in numerous places in Oakland County centering on Birmingham and Pontiac, and in one locality near Ada in Kent County.

Agent Frank J. Gibbs, a Senior in the Forestry Department of Michigan Agricultural College began his work of blister rust inspection in Michigan, July 1, 1925. Up to the first of August he had made over 106 inspections on individual properties in Oakland County, finding no blister rust in the state.

Mr. G.B. Posey of the Washington Office has been inspecting the scouting work in Michigan, Wisconsin and New Jersey, during August.

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## BLISTER RUST IN PENNSYLVANIA

It has been reported to this Office that Dr. W.A. McCubbin of the Pennsylvania Bureau of Plant Industry, has found blister rust in Wayne County, Pennsylvania, on white pine and wild Ribes.

A résumé of the blister rust in northeastern Pennsylvania may be of interest. - Blister rust was first found in Wayne County (the extreme northeastern county of the state) in 1921, in seven different localities. In six of these localities infections were found on cultivated black currants or wild gooseberries, and in the seventh, the rust had infected 10 to 12 eastern white pines (P. strobus) and 6 black currants. The disease was also located in 1921 at Montrose, Susquehanna County.

In 1922 blister rust was again found on cultivated black currants at 3 places in Wayne County and at one place in Susquehanna County, and on prickly-berried gooseberries (R. cynosbati) at one locality in Wayne County.

The disease was not found in the state in 1923 or 1924.

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BLISTER RUST SITUATION IN NEW JERSEY

Mr. A.H. Hearn and an inspector from the State Bureau of Statistics and Inspection have been engaged in a survey for the blister rust since July 1. The disease has been reported found in Monmouth County.

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NEW IDEAS IN EXHIBITS

If the Agents have kept the Blister Rust News for 1924 and the table of their contents sent out from the Washington Office early in 1925, they will find under the topic "Exhibits", reference to this phase of the blister rust work. The "Exhibit Number" especially, is worth your study. This is Number 7 and appeared on September 15. If this number has not been retained by the Agents, a limited number can be supplied upon request to the Washington Office.

By a study of the articles you will probably find a number of ideas that you have never tried in your district. People attending fairs do not want to see the same pictures and posters year after year, they want variety.

R.G.P.

## LEADERSHIP

Results which will be most far reaching for the good of our work can be gotten only when we know conditions in our territory, how, when, and where to strike and keep continually hammering. We must know the men who serve under us; also the kind of people and the living conditions, and field problems of those whom they must meet. There is but one way to know these things and that is to go out and study all of them. No leader can be a continual source of inspiration to his men unless he has something worthwhile to give them. He must be able to give at least as much as he receives and then a little more. If his visits with his men are to get all he can from them and give nothing in return, he is not helping the men, the work, or the organization.

The men in the crew are a part of the blister rust organization of the state. Leaders should meet them as man to man and give them to understand that their's is no mere job but a job that is worthwhile and that they are doing a lasting service for forest conservation.

The leader must know the foremen personally, visit their crews, not once a season but at least once a month. Talk with them privately, point out weaknesses, if any, and suggest how they can be remedied. If the foreman is doing a splendid piece of work, tell him so. Encouragement and commendation of the foremen mean much for the success of control work. The foremen are really the key men in Ribes eradication work.

Mr. Leader, there are the blister rust control agents, who if they are any good at all, are doing some of the finest service work being done in our Country today. What do you know of their problems? Do you visit them in their offices and then run away? These men need inspiration from you. If you have worked in a crew pulling Ribes, if you have been a foreman, and act as a foreman when you visit the crews, if you can talk blister rust and forest conservation to some hard headed pine owner, if you know what it means to get interviews, follow-up calls, moral support, conduct field demonstrations, meetings, exhibits and a thousand other things, by having actually thought out, planned them and done them, then you can begin to understand what the agent is up against and be a real leader to him.

Anon.

## A CONTRIBUTION TO THE ECOLOGY OF RIBES HIRTELLUM.

### Foremen and Crews Should Watch for Spreading Type of Smooth Gooseberry

The prevailing conception of the northern smooth gooseberry (Ribes hirtellum, Michx.) is, I believe, that it is an erect bush composed of several shoots springing from one central root stock. Coville and Britton in North American Flora state that it is a shrub 6-12 dm. high (equivalent of 24 to 48 inches).

On a recent trip to Maine, I accompanied Agent Kimball on an inspection trip in Lisbon, and observed a variation in the growth of this species which was interesting to me. Here in a very moist area under high shrubs we located a number of these wild gooseberry bushes. Their habit of growth, however, was not that of an erect bush with one common root stock, but that of a number of erect shoots springing from a trailing root at intervals of from 6 inches to 2 feet or more apart.

The main root, or as much as I secured, was over 36 inches long, and from 3 to 5 mm. thick. From this root three lateral roots 14 to 18 inches long extended and from these laterals 9 erect shoots appeared. The shoots varied in height from 3 1/2 inches to 3 feet. The leaves of this bush are wedge-shaped at the base and typical of R. hirtellum. Since other bushes of this species with similar running root-habit were observed at the same time as the one described above, this is not an isolated instance.

The above discovery, if such it is, has I believe a practical bearing in the control of the blister rust. In the eradication of Ribes, care must be taken to get as much of each bush as possible, and not to leave a single root-end exposed. With this species (R. hirtellum) in moist sites, special care should be taken in tracing out the roots not to break them off for they may lead to other upright stems at some distance away from the first one pulled.

Roy G. Pierce.

## STATUS OF BLISTER RUST CONTROL IN 1924.

This destructive disease of five-needled pines (white pines) is present in the New England States, New York, New Jersey, Pennsylvania, Michigan, Wisconsin, Minnesota, and Washington. In Canada it occurs in the provinces of British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island. The results of scouting show that the European or cultivated black currant (Ribes nigrum) is one of the most important factors in the long distance spread and local establishment of this disease. Gradually the important white pine states are declaring it a public nuisance and prohibiting its further cultivation. The U.S. Department of Agriculture also recognizes this species as a distinct menace to the white pine timber supply of the country and is opposed to its growth in the United States.

### Progress of Control in the East

The control campaign in New England and New York has made good progress since its inception in 1922. Public interest and cooperation in the work has been very satisfactory as shown by the following tables:

TABLE 1. COOPERATING COMMUNITIES AND INDIVIDUALS

| New England and New York | 1922 | 1923 | 1924 |
|---|---|---|---|
| No. of communities cooperating | 59 | 122 | 148 |
| No. of individuals cooperating | 971 | 1968 | 3059 |

TABLE 2. ACREAGE ERADICATED AND CURRANTS AND GOOSEBERRIES DESTROYED

| New England and New York | 1922 | 1923 | 1924 |
|---|---|---|---|
| No. acres eradicated of currants and gooseberries | 476,621 | 892,639 | *1,008,042 |
| No. currants and gooseberries destroyed (wild and cultivated) | 4,865,875 | 8,024,991 | 9,540,129 |

* In the White Mountain National Forest an additional 4,944 acres were eradicated of 151,489 currants and gooseberries in cooperation with the Forest Service.

There has been no marked change in the blister rust situation in New Jersey, Pennsylvania, Michigan, Wisconsin and Minnesota. The rust is present in these states in much less abundance than in New England and northeastern New York. This appears to be largely due to (1) fewer original introductions of diseased host plants and (2) the period of establishment of the rust being affected by less favorable field conditions.

## PROGRESS OF CONTROL IN THE WEST

In the West a blister rust control program covering a period of 10 years has been undertaken in cooperation with the states concerned. Scouting during the past year showed no spread of the rust southward of the limits of the infected area as determined in 1923. This probably was due primarily to dry weather conditions that prevailed in the northwest and to the extensive eradication of cultivated black currants. Additional pine infections were found in western Washington indicating that the rust is beginning to establish itself on the native pine host in this region.

Cultivated black currants (*Ribes nigrum*) have been systematically located and eradicated in western Montana, Idaho, Washington, Oregon and northern California and part of this region is now being reexamined for any plantings that may have been overlooked. Field data shows that these plants become infected at great distances from diseased pines and establish new centers of infection from which the rust spreads locally to other currants and gooseberries and to white pines.

Effective quarantines are being maintained to prevent the spread of the rust into disease-free regions through the shipment of infected host plants. These quarantines are enforced by the Federal Horticultural Board, the inspection work being done by trained inspectors of the Bureau of Plant Industry. During 1924, 30 violations by nurseries and 51 by private individuals ignorant of the quarantines, were located. The number of violations by nurserymen has been reduced from 193 in 1921 to 30 in 1924. Meanwhile experimental work in developing and applying control practices is being carried forward as rapidly as possible. The results obtained have been favorable and indicate that protective measures can be worked out and applied at costs which will make control practical under western forest conditions.

J.F. Martin.

THE WRONG TAG IN THE RIGHT PLACE

"For over a month now I have been watching a tree tagged, 'Blister Rust is Killing This Pine', and don't see a bit of change." So spoke one of the native sons of old New England. This remark brought home forcibly the point as to whether proper use is being made of the demonstration tags recently furnished to the field men.

The branch canker on the pine mentioned above, will probably not kill the tree for several years. Meanwhile the farmer would have at least developed a stiff neck and doubts as to the danger of blister rust. Had a red tag stating - - (This is a Blister Rust Canker) been used instead of the yellow card - - (Blister Rust is Killing This Pine) probably no misunderstanding would have arisen. Similar erroneous impressions can be avoided by

making it a rule not to tag infected pines with the card - - (Blister Rust is Killing This Pine) unless the tree will show severe damage or be killed within two or three years. When it is desired merely to call attention to pine infections, the use of the red tag - - (This is a Blister Rust Canker) better serves the purpose.

E.C. Filler

BROCKWAY HAS HIT THE NAIL ON THE HEAD.

It has been my experience both at small and big fairs to have just as little of everything as possible. This includes material such as diseased branches - Riker mounts containing diseased Ribes leaves - specimens in jars showing aecia - pictures and signs.

If one has too much material it looks like a jumbled-up mess at the most and will fail to attract attention. Good signs are as essential as diseased branches and they must be snappy and to the point.

Be sure to keep the exhibit in good shape at all times. Things get out of place by people handling them, and circulars get scattered.

In arranging the exhibit be sure to have a central idea and start with it, then continue with the exhibit. The dressing of store windows is considered an art in itself and why shouldn't our exhibits be placed with just as much thought and care as a store window display?

I would advise every agent to read the article - "The Wayside Merchant" by Frame C. Brown, in the American Fruit Growers Magazine for July 1925. This contains many good points as to roadside exhibits and signs.

Earle M. Brockway, Massachusetts.

HARVEY L. PADDOCK

It is with deep regret that we announce the death, by drowning, of Mr. Harvey L. Paddock, Agent in Blister Rust Control in California. The accident occurred at Blue Lake, California, August 9, 1925.

Mr. Paddock graduated from Oregon Agricultural College in June 1923. During his college course he was assistant editor of the "Oregon Countryman" (1922-23), and a contributor to "Western Fruit", of Seattle, the "Morning Oregonian" of Portland, and many Oregon Weekly Papers. He was a member of Alpha Zeta and Alpha Pi Delta.

Mr. Paddock has been on our rolls from July 1 - Sept. 15, 1924, and since Jan. 1, 1925.

FEATURE DAMAGE CAUSED BY CULTIVATED RIBES, IN EXHIBITS.

It is the opinion of the writer that some space at exhibits should be given to showing pictures of heavily damaged pine lots, caused by infected cultivated currants or gooseberry bushes. We can't deny that almost every Agent has met with discomfitures in the removal of these Ribes. In nine cases out of ten the people who own cultivated bushes are loathe to part with them and a controversy always arises when the Agent or Crew Foreman calls to remove them. Again at Town meeting the first to arise in opposition to an appropriation for control work are the parties who have lost their cultivated bushes in the past and they are always sure to tell you where they have found wild bushes back in the woods.

I believe that prominent space at exhibits should be given to either pictures of pine lots damaged by these bushes or posters showing percentage of infection on the pine lots. Of course we can't attribute all the infection on the pine areas to the cultivated bushes but there are certain plots in New Hampshire where we feel certain that most of the infection came from cultivated bushes. Pictures of these lots should be secured for fairs and other exhibits.

Thomas L. Kane - New Hampshire.

## MOTION PICTURES

Mr. Fred W. Perkins, in charge of Motion Pictures, has informed the Office that the State Forestry Department of New Hampshire has ordered a print of "The Pines" for their permanent use in the state.

Edit: From a talk with several agents that have shown "The Pines" the film seems to have taken very well; - as one man expressed it - It emphasizes good forestry, has good balance, and does not stress blister rust too much.

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### BLISTER RUST FILM AND WINDOW DISPLAY

### IN GREENFIELD, MASS.

Arrangements have been completed for the showing of our blister rust film in Greenfield. A local hardware store has offered us the use of a large window for display purposes and will also pay for space in the local papers to advertise the display.

G.S. Doore, Mass.

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### OUR FILMS ON BLISTER RUST

This may be a little out of season to be writing on blister rust films but it occurred to me that a suggestion worthwhile should be typed while it's fresh in the mind.

During the past winter while showing our latest film on "The Pines" I generally followed this with the second reel of our western blister rust film. This reel shows a number of larger trees that are infected and because of the fact that these trees were banded with white cloth it seemed to make a better impression on the audience. It really looked big in their minds and I heard a number of favorable comments regarding the reel.

It is the opinion of the writer that where pictures are to play the most prominent part at a meeting, the showing of the two reels on "The Pines" followed by the second reel of "Blister Rust, a Menace to Western Timber" would serve the purpose and give the audience something out of the ordinary in pictures on large infections.

Thomas L. Kane, N.H.

## NEW FORESTRY MAP

The Forest Service has recently put out a new forestry map showing the six principal forest regions of the United States. In addition, the map has a list of principal trees found in each region and a brief comprehensive description of the areas and amounts of timber in each region. Copies of this map have been requested for each of the permanent employees in blister rust control and it is hoped that the supply will not be exhausted before these can be forwarded by the Forest Service.

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## KEEPING OUR TAGS RED AND SHINING.

Mr. G.S. Doore has recently sent in to the Washington Office a discolored tag - "This is a Blister Rust Canker". Upon close examination it is seen that it was once red. Mr. Doore writes - "This tag was hung on a tree the first part of April 1925 and was taken from the tree July 28, 1925. Rather bleached out? The yellow tags do not change in color to speak of".

On receipt of this faded article we tried varnish on the fresh red tags using other tags unvarnished as a check. The varnished tags have retained their brilliant red and have withstood the rain and wind much better than the unvarnished tags.

It is suggested that when the red tags are used that a coat of varnish be applied to them a few days prior to their being hung out in the open.

R.G.P.

## CORRECTION - WHITE PINE WEEVIL LIFE HISTORY

Unwittingly an error was made in our last News Letter concerning this pestiferous insect. Therefore, a statement from Mr. William Middleton,* of the U.S. Dept. of Agriculture is here given in order to set us right on the subject:

Another insect pest of white pine is the white pine weevil (Pissodes sp.), with which young trees are often infested. This insect attacks and kills the pine leaders, and while it seldom kills the tree, often stunts it, causing it to become crooked. The adult snout-beetle of the white pine weevil appears on the pines in the spring, feeding somewhat on the terminal shoots, producing resinous wounds, and then deposits its eggs in small pits cut in the bark of the previous year's growth. The larvae or grubs hatching from the eggs feed on the inner bark, constructing mines which girdle and kill the shoot. When the grubs are full-grown they terminate these mines in rather large cells excavated in the wood, where the resting or pupal stage is passed. These cells are very characteristic of the work, in that they are surrounded by shredded wood fiber. The adult weevils emerge in July and August of the year in which the eggs were laid and hibernate over winter.

The white pine weevil must be combatted by the removal and destruction of the infested leaders over as wide an area and as thoroughly as possible. This work should be done in the late spring or early summer, while the leaders still contain the insect in its injurious stages. Burning is usually resorted to, but the infested leaders may also be placed in tight barrels having the ends covered with wire fly-screen netting, which will permit the parasites of the weevils to escape but at the same time retain the weevils. Such treatment is required for several consecutive years.

* Middleton, Wm. Insects Injurious to White Pines.
Bulletin of the Green Section of the U.S. Golf Association
Vol. IV, No. 6, p. 149, June 21, 1924.

## BLISTER RUST NOT THE ONLY DAMAGING AGENT IN MAINE PINES.

Several of the Maine County Blister Rust Agents are reporting the dying of several large white pines from the top downward, always the oldest and most conspicuous trees, thereby causing much concern among pine owners.

Last week Dr. Martin and I climbed the largest of these trees, a tree nearly three feet in diameter on the stump, with the top dead and dying downward for a distance of twenty feet or more. Examination showed that the trouble was not due to blister rust or other fungi, but was caused by bark beetles. One large dead branch was cut, and taken to Augusta to Dr. Peirson, Forest Entomologist, for identification.

Dr. Pierson says: "The specimen of pine which you left for examination was infested with bark beetles. There were two species present. The larger, Ips pini, and the smaller one, Pityogenes hopkinsi. As a rule both of these attack only weakened trees although Ips pini at times becomes a primary insect attacking healthy trees. From the description of the tree which you gave me I am inclined to believe that it was first weakened by winter injury. This is brought about by high, dry, warm winds coming in the early spring before the roots are thawed out. These dry winds absorb the moisture from the needles and as the roots are frozen the tree is unable to replace this moisture and the tops of the trees die as if struck by drought. The bark beetles are attracted to these weakened trees and in many cases will kill them. Providing only a small part of the crown of a tree has been killed, I would suggest pruning off the dead part and painting the cut with lead paint to keep rots out. A little bone meal fertilizer will do much to bring back the health of the tree. If the tree has been largely killed it should be cut and burned to prevent spread of the beetles."

W.O. Frost

July 24, 1925.

## NEW FORESTRY LEGISLATION.

### Connecticut

Passed a bill for a state forest nursery. The planting stock from the nursery cannot be sold to private owners but will be available for planting on state lands only.

### Idaho

A forestry bill passed the legislature, creating the office of State Forester and a state cooperative board of forestry of 12 members. Mr. Ben E. Bush was appointed by the board as State Forester. His office is at Moscow.

### Michigan

The Governor has signed the forestry law which goes into effect on August 20. Under this law, owners of cut-over land may, on approval of the Department of Conservation, have their land set aside as commercial forest and exempted from the ad valorem general tax, but it would remain subject to a specific tax of five cents an acre and to a yield or stumpage tax when withdrawn.

### Minnesota

The Forest Service in Minnesota has been reorganized. Under a special act which took effect July 1, the Forestry Board is abolished and its duties are taken over by the Department of Conservation, composed of three commissioners. Mr. Grover M. Conzet has been appointed Forest Commissioner and serves also as chairman of the commission.

### Washington

Mr. George C. Jay, formerly chief fire warden of the Washington Forest Fire Association, has assumed his duties as State Supervisor of Forestry, succeeding Fred E. Pape. Mr. Jay's address is at Olympia.

Extracts from "Forestry News Digest", Aug. 1925.

## PERSONAL

Mr. S.B. Detwiler made a hasty trip, during early July, to New England with Mr. W.D. Humiston of Idaho, to show the latter blister rust conditions in the East and the steps being taken to combat the disease. Mr. Detwiler continued his trip to the West Coast and will probably not return before the last of September.

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Blister rust scouting is being carried on in Michigan, Pennsylvania, and New Jersey, by three new Agents respectively, Messrs. Frank J. Gibbs, whose address is care of State Horticulturist, Lansing, Mich., Paul B. Smith, % Dr. W. A. McCubbin, State Dept. of Agric., Harrisburg, Penna. and Allison H. Hearn, % H.B. Weiss, State Dept. of Agric. Trenton, New Jersey.

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Mr. Roy G. Pierce, of the Washington Office, returned August 2 from a three weeks trip to New England where he studied the Agents' methods of carrying on educational work. He regrets that he could not have met more of the Agents. Already, as a result of his trip, numerous requests for materials have been received and are being filled as rapidly as possible.

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Dr. J.F. Martin visited New York and several of the New England States during July, conferring with state cooperators and studying the field work.

Mr. Alfred D. McDonnell left Blister Rust Control to accept a position with the Connecticut Agricultural Experiment Station, effective July 31, 1925.

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Miss Mamie McWold, of the Washington Office, is spending her vacation at her home in Wisconsin.

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Appointments:

Mr. Frank J. Gibbs, Agent - Lansing, Mich., Appointed July 1, 1925.

Mr. John J. Fitzpatrick again with Blister Rust Control as Field Assistant. Boston, Mass. Effective July 16, 1925.

Mr. Paul B. Smith, Agent, Harrisburg, Pa. Effective July 1, 1925.

Mr. Stephen W. Blore, Agent, Spokane, Washington, Effective July 1, 1925.

| | | | | | |
|---|---|---|---|---|---|
| Mr. Horace L. Eldridge, Field Asst. | Spokane, Wash. | " | " | " | " |
| Mr. George A. Holt, Field Asst. | Spokane, Wash. | " | " | " | " |
| Mr. Dale McCoy, Agent | Spokane, Wash. | " | " | " | " |
| Mr. Percy B. Rowe, Agent | Spokane, Wash. | " | " | " | " |
| Mr. George M. Whiting, Agent | Spokane, Wash. | " | " | " | " |
| Mr. Frank Kinnison, Agent | Moscow, Idaho. | " | " | " | " |

# PUBLICATIONS

## Blister Rust

Anon. - Notes on Blister Rust. In Forestry Column. Rockingham County Farmer (N.H.) V. 8, No. 3, p. 9, April 1925.

American Forestry Week. Paragraph on blister rust eradication in Rockingham County. Rockingham County Farmer (N.H.) V. 8, No. 4, p. 9. May 1925.

Notes on Blister Rust. Rockingham County Farmer, (N.H.) V. 8, No. 6, p. 9. July 1925.

Notes on Blister Rust. Seabrook Fighting Blister Rust. Rockingham County Farmer (N.H.) V. 8, No. 7, p. 9, Aug. 1925.

Barraclough, K.E. - Blister Rust Work. The Eradication of Currant and Gooseberry Bushes in Rockingham County Has Begun. Rockingham County Farmer (N.H.) V. 8, No. 5, p. 9, June 1925.

Brockway, Earle M. - Treat Forests as Crops, Tend Carefully as Farms; - says President Coolidge. Protect Trees as Garden Plants, Destroy Currants and Gooseberry Bushes to Oust Blister Rust.
The Plymouth County Farmer, (Mass.) V. 9, No. 7, p. 1, July 1925.

Brown, F.K. - The Battle for the Parson's Lot. The Pioneer - A Paper for Boys. (Phila.) Vol. 1, No. 24, p. 95,96. June 13, 1925.
This is a cracking good story of two boys helping save a big pine lot from the blister rust by destroying the currants and gooseberries.

Pennington, L.H. - Relation of weather conditions to the spread of white pine blister rust in the Pacific northwest. Jour. Agr. Res. 30; 593-607. April 1, 1925.

Root, George A. - Sugar Pine and the White Pine Blister Rust. Pacific Rural Press - July 25, 1925. page 79. Illustrated by a map.

## Pines

### Sugar Pine

Show, S.B. and E.I. Kotok
The role of fire in the California pine forests. U.S. Dept. of Agr. Bul. 1294 (1924) pp. 80, pls. 15
Sugar pine is contrasted with western yellow pine, white fir, and incense cedar in susceptibility to heat killing and in injury to seedlings.

### Western White Pine

Larsen, J.A. - Some factors affecting reproduction after logging in northern Idaho.
Jour. Agr. Research (U.S.) 28 (1924) No. 11, pp 1149-1157, figs. 5)
Studies were made (1) within a virgin mixed forest, (2) under approximately one-third overhead shade, and (3) on a fully exposed site, with a number of different species including western white pine.

Wahlenberg, W.G. - Fall sowing and delayed germination of western white pine seed.
Jour. Agr. Research (U.S.) 28 (1924) No. 11, pp. 1127-1131, figs. 4)

### White Pine

Stickel, P.W. and R.C. Hawley - The grazing of cattle and horses in pine plantations. Jour. of Forestry, 22 (1924), No. 8, pp. 846-860) - Studies, conducted by the Yale School of Forestry, upon the effects of grazing in red and white pine plantations indicated that limited cattle grazing may be of decided benefit to young plantings as follows: (1) in reducing fire hazards by the close cropping of grasses and shrubs, (2) in the suppression of hardwood sprouts, which are eaten in preference to the evergreens, and (3) in the development of deep paths which may serve as fire lines in combating running fires. On the other hand, because of their biting habits and general restlessness, horses were found much more destructive than cattle, and it is recommended, therefore, that in winter especially they be entirely excluded.

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D.C.

# THE BLISTER RUST NEWS.

Issued by the Office of Blister Rust Control
and the Cooperating States.

VOL. 9, NO. 9 LAKE STATES NUMBER SEPT. 15, 1925

Hello Agent!

A new country heard from in this number! Lake States men have been sort of quiet for several years, except up in Wisconsin. Now we hear from Michigan and Minnesota too. The rust is there too, in Minnesota, but wasn't found in Michigan! Well! Well! !

Have you got your supply of that new colored leaflet, Misellaneous Circular No. 40, that takes the place of our "Jack Frost" folder? Say, Agent, it's a humdinger and Jimmy Martin wrote it. Write your State Leader, since he gets the state's full share.

Now that Ribes pullin' is about over for the year, stop a minute and get a breath and look 'round and see just what was finished. Didn't this year stack up even better than the last one? Agent, you've done your durndest and whether you get it or not, you have earned the thanks of the district you're livin' in; yes, and the state and the nation too.

Here's to you, Agent,

Ribes Bill

## A BIRD'S EYE VIEW OF BLISTER RUST CONDITIONS IN THE LAKE STATES.

During the past two or three years there has been a tendency on the part of many observers, including scientists, to minimize the danger of the white pine blister rust in Lake States, and consequently the opinion that the disease "will not amount to much in this region" is sometimes expressed. From experience with this disease during the past seven years this opinion may be both right and wrong according to the manner in which control work is applied.

If a reasonable amount of work is done in Wisconsin in scouting, education, and occasionally some local eradication, the blister rust can be controlled in the state and the disease can apparently be prevented from causing any serious damage. However, if scouting and educational work are discontinued there is every reason to believe that we will in a few years encounter the same conditions prevalent in 1919 and 1920. At that time even the men most familiar with the blister rust were much alarmed, and drastic measures were necessary to get the disease under control. We must not forget that period and allow an unfounded optimism to cause complete abandonment of control work.

It seems safe to say that the blister rust does not spread as fast in the Lake States as it does in the east. This appears to be due to the following conditions:

1. The pine stands are broken by broad tracts containing only a few ornamental white pine trees or none. Consequently, the majority of aeciospores produced in an infected pine woodlot is lost in transportation by the wind and comparatively few start infections on Ribes which finally result in new pine infections.

2. With few exceptions the summers are hot and dry, with occasional

thunder storms during which sufficient rain falls to support the growth of crops. Rainstorms continuous for more than twelve hours are usually confined to the fall after the majority of Ribes leaves have fallen off the bushes. Consequently, the moisture conditions favorable to pine infections seem to be less frequent than in the Eastern States.

On the other hand, there is sufficient evidence that where Ribes are fairly abundant conditions favorable to pine infection are sufficiently frequent to destroy practically the entire crop of white pine between the seedling stage and maturity. This opinion seems to be well founded from what occurred in the Grantsburg, Deer Park and Elk Mound areas. Where Ribes are very abundant practically all of the pines are destroyed long before they reach the pulp wood stage. This was clearly shown on about ten acres in the center of the Rice Lake area where nearly 100 percent of the dense stand of small white pines, ranging up to 12 feet high, were infected, many of which were dead.

In the Rice Lake area infections were not found on the large trees where the lower parts of the trunks were free of branches and where the lower branches were above the hardwood trees.

It is easy for those not in close touch with field conditions to minimize the danger until they come face to face with disaster. However, the logical plan is to control destructive factors before sufficient loss occurs to destroy profits. Even if the blister rust should prove to be less serious than the above described areas would indicate, it appears to be beyond question that the disease is sufficiently serious to make the white pine crop unprofitable unless a reasonable amount of educational and control work is done. It is evident that white pine timber cannot continue as a crop unless such a crop is profitable. If white pine in northern Wisconsin is not profitable it would be difficult to find a species of timber tree which is profitable there.

H.J. Ninman

WORK ON PINE BLISTER RUST IN MINNESOTA IN 1925.

After a lapse of several years, work on the White Pine Blister Rust in Minnesota has been resumed. The work has been carried on under the supervision of Dr. Freeman of the University of Minnesota by William Peel of the Pathology Department and Dean Knutson of the Forestry school.

The plan for the work which was formulated by Mr. Detwiler, Chief of the Blister Rust Control consists of the following:

A. A systematic check of Ribes on eradicated areas.

B. Determination of present extent and Progress of Pine infections on known infection areas.

C. A systematic gridiron of the northern portion of the state locating new infection centers, the extent and abundance of infected Ribes and location of Black Currants.

All previous records were gone over and information collected that would be useful in successfully carrying out the work.

The first area visited is known as the Afton area, located fifteen miles southeast of St. Paul. This is an old infection centre and one of the earliest found. The area was eradicated of Ribes in 1917. Ribes check strips one rod wide and a chain long were run across the area. The average number of bushes found per acre was eighty one with an average leaf-bearing stem of two and one half feet. Most of the bushes found were infected. Several branch infections were found.

Pine Hollow, an area several miles north of Afton on the St. Croix was scouted for the disease but none was found. This was one area where many of the pine were eradicated in our early attempt to stamp out the disease. There are a few pine on the area and some Ribes, consisting pricipally of cynosbati.

Our scouting around Taylor's Falls disclosed one of the most interesting infection spots of the season. Here in a Hollow, known as Lawrence Creek is exemplified the disastrous effects of the Blister Rust on young growth of White Pine. On a half acre plot seventy-five per cent of the pine were infected with the Blister Rust. These trees range from one to three feet high and are five to ten years old. Tops of many of the trees are dead and others will survive but a few years. Detection of infection on the older trees was difficult owing to the time of year and the fact that the trees were covered with lichens.

A forester reading this article will no doubt say that the area does not present optimum conditions for white pine growth. This I will grant but Pathologists know that the blister rust becomes intensified under just such a condition as this and spreads to the more unfavorable situations when temperature and moisture conditions are favorable.

The value of eradication is well exemplified by conditions on land adjoining the infection area found at Lawrence Creek. In 1917 the owner of this adjoining land paid to have the Ribes eradicated. There was no eradication on the infected area. Half acre plots were taken on both the eradicated and non-eradicated areas. Similar conditions existed on both plots. Seventy-five per cent of the young trees were infected on the non-eradicated area, while no infection was found on the eradicated area. The owner of the infected pine advised me that he intended selling these small trees. These trees are now a total loss.

The Rush Lake Area which is located five miles west of Rush City exemplifies well the affects of the Blister Rust on larger trees. Many of these trees have been girdled and their tops broken off by the wind. There are innumerable branch infections. The disease is spread for many miles around this centre both on Pine and Ribes.

Eradication of Ribes, on this area, took place first in 1917 and again in 1918. Ribes check strips run across the area showed that an average of twenty bushes per acre remained, averaging one foot of leaf-bearing stem. A large percentage of these bushes were infected.

The latter part of our work which includes a survey of the disease and the location of black currants has not been completed. In many instances the disease has been found on Ribes in localities where it was previously located. These repeated findings would indicate that Pine infections should be in close proximity to these areas. In some cases we have been unable to find the disease on reported infection areas. We have however found the disease in several new sections of the State. Infection on Ribes has been found as far northeast as Two-Harbors, and as far west as the western part of Morrison County. To date ten plantings of infected Ribes nigrum have been found in the East end of Duluth. None have been found in the West end. As there is an abundance of white pine in the east end, these findings would indicate pine infection in that locality.

The lack of wide-spread infection on Ribes in Minnesota may be partially accounted for by the small amount of rainfall during the production of aecio-spores as well as the continued dry spell throughout the summer.

It may be of interest to know that Coleosporium ribis was located on the north shore of Mille Lacs in Aitkin County. The disease was fairly abundant on several of the plants found. Our findings on Ribes were on cynosbati only.

Scouting this summer has shown that the White Pine Blister Rust is spreading in Minnesota and that it has become intensified in previously reported infection centres, that infection on Ribes great distances from infected pine has occurred on R. cynosbati, and that generally, optimum conditions for white pine are not similar to those required by R. cynosbati.

I wish to express my appreciation to Dr. Pennington of the Washington Office who so greatly assisted us and to Dean Freeman of the University of Minnesota for the sincere interest he took in the work.

W. F. Pell, Agent.

COOPERATIVE BLISTER RUST CONTROL WORK IN NORTHEASTERN STATES DURING JULY, 1925.

Reports coming from all districts show a record season for blister rust infection on Ribes. In several states, even the so-called resistant cultivated red currant has been found heavily diseased, in fact producing telia in abundance. The cool rainy weather has been ideal for the development of the disease, and 1925 will doubtless be rated as the third high wave of infection, following those of 1916 and 1919.

The rainy weather has had a direct effect in curtailing the amount of Ribes eradication work. The heavy infection is also causing early defoliation of the bushes. This means a shorter eradication season.

All phases of the educational, service, and eradication work performed by the permanent and temporary agents during July show increase over the previous month.

Aug. 28, 1925. E.C.Filler.

BLISTER RUST DISCOVERED ON PINE IN DULUTH, MINNESOTA.

Mr. Wm. Peel, Agent for Minnesota, sent in on Sept. 7, a specimen of diseased white pine which was growing in Duluth on publicly-owned land. This is the first infected pine found in Duluth. This specimen had characteristic pycnial spots and discolored bark, and was also infested by the larvae of some insect. Mr. Pool writes:

"We found about ten infected plantings of blacks in close proximity to the pines. I am enclosing a leaf of a planting (20 plants of R. nigrum) which was plastered with the disease".

This discovery of the heavily-infected black currant leaves so close to the pines points to the advisability, if not to the necessity of getting the black currant eradication work under way in the East.

CULTIVATED RED CURRANTS HEAVILY INFECTED IN MASSACHUSETTS

The Washington Office has recently received from Mr. W.J. Endersbee, Assistant Pathologist at Great Barrington, Massachusetts, a collection of cultivated red currant leaves from two different bushes showing a very heavy blister rust infection. Mr. Endersbee in writing Mr. Posey regarding this collection makes the following statements:

"Since you were here I have found at least three different varieties of cultivated bushes all heavily infected - - - - . One woman has Cherry and Red Cross currants. In another place I found red and white currants infected. I will do my best to get some of the infected leaves before they all drop off. The currants which I am sending you were probably planted years ago. They were found along a fence on some property we worked Monday. About a third of the bushes were black currants but they were no more heavily infected than the red currants I am sending".

A second collection of infected red currants has been received from Mr. Endersbee under date of September 7. These were found at Egremont, in Berkshire County, Massachusetts. Concerning these Mr. Endersbee writes:

"A few days ago I mailed you the plant press with specimen of infected red currants which I found in Egremont. These are most heavily infected of any I have seen. Not more than 50 feet from them were some flowering currants entirely free from the disease. So far as I could see both species had the same advantages. In both cases the original bushes had been cut down close to the ground and were not more than a foot high when I found them."

COMMUNITY OF SEABROOK, NEW HAMPSHIRE, SO INTERESTED IN BLISTER RUST WORK THAT SCOUT ALMOST MISSES SUPPER.

"The people of Seabrook are on our side. It is an actual fact that the towns people are so interested in what is being accomplished from day to day that it is necessary for the Scout to go across lots to his boarding house each evening so as to get to supper on time. If he follows the highway home nearly every land-owner hails him and inquires of the progress made that day. The whole secret, I believe, is that the people have a fine community spirit and are proud of their town. When they become convinced that anyone is helping their community they are with them."

K.E. Barraclough,
New Hampshire.

SCOUTING IN 1925 IN WISCONSIN.

Scouting for blister rust was more thorough and was performed over a larger area in 1925 than in the three previous years, and several important facts were determined.

In places where the established control methods were rigidly carried out there is no noticeable damage to the white pines and in some spots the disease appears to be stamped out. In pine areas where co-operation was poor and where control measures had to be neglected because of a lack of state funds, the spread of the rust from Ribes to pines is quite noticeable and in certain cases conditions threaten to become serious. New pine infections are becoming more numerous in the old infection centers at Deer Park, in St. Croix County; Luck, in Polk County; Reserve, in Sawyer County; and Keshena in Shawano County. Funds for control work should be supplied soon for these centers if the disease is to be kept in check in Wisconsin. The Keshena infection is especially serious.

A new infection center was discovered one mile east of Range in Polk Co. By actual count 150 diseased pines, nearly all of them small, were found on about 15 acres of pastured pine and hardwood. This area is located near the eastern border of the North-of-Amery Ribes Eradication Area and is nearly surrounded by cleared land.

A very large territory in the eastern and the northeastern counties of Wisconsin was scouted, with the assistance of Dr. Pennington during the first days of July and of Mr. Posey in August. Outside of the old infection areas only one infection was found. This was one R. cynosbati with five diseased leaves which was located two miles southeast of Shawano and about nine miles from Keshena.

The scouting shows that the blister rust has not spread appreciably to counties where the disease was not found in 1918 and in 1919, when most of the northern half of the state was scouted.

The counties east of Lake Winnebago were scouted for the first time in 1925. Very good woodlots, which consisted of a mixture of white pine, hardwoods, and cedar, were numerous in Manitowoc and Sheboygan Counties. The white pine of sawlog-size in these counties was estimated at about 7,000,000 board feet, but the reproduction was not especially abundant.

More white pine than was generally believed to be present was found in Vilas, Oconto, and Waupaca Counties; and good reproduction was found in each of them.

H.J. Ninman

BLISTER RUST CONDITIONS IN RHODE ISLAND AND CONNECTICUT

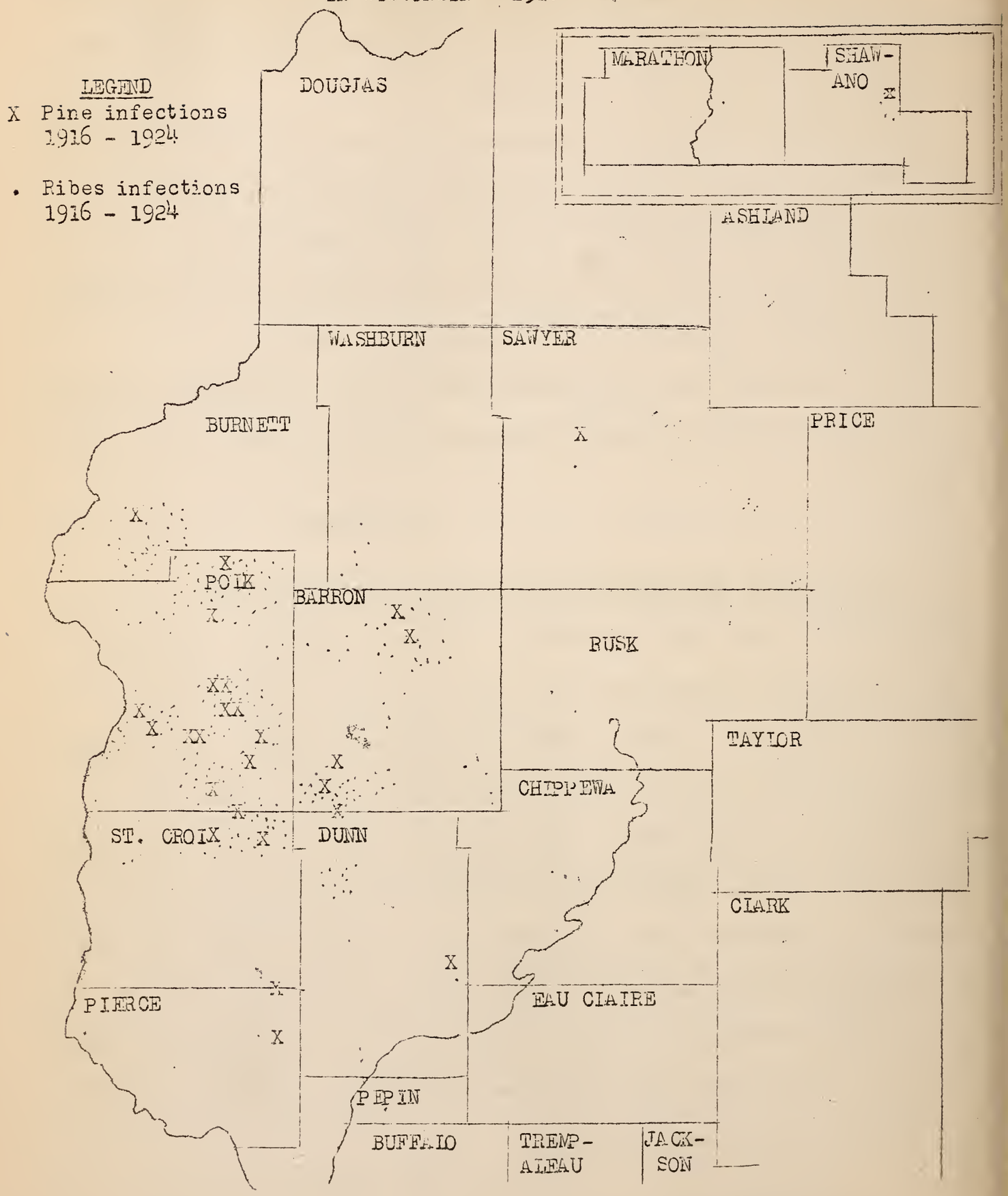
In Rhode Island about a half dozen spot infections have been found but in all cases the nearby Ribes were removed and most of the pine infections have been cut. In Conn. outside of Litchfield County about 25 spot infections have been located. Most of these were in plantations. The diseased trees and nearby Ribes in most cases have been removed. Last summer in the town of Pomfret, Windham County, I found heavy infection on cultivated red currants. There were a few pine infections in a hedge nearby. In Litchfield County the disease is generally distributed. Last summer I located considerable young infection in the town of Salisbury in the northwestern corner of the state. Strip lines which Endersbee recently ran in the town of North Canaan also show some young infection.

E.C. Filler.

June 24, 1925.

WHITE PINE BLISTER RUST SITUATION

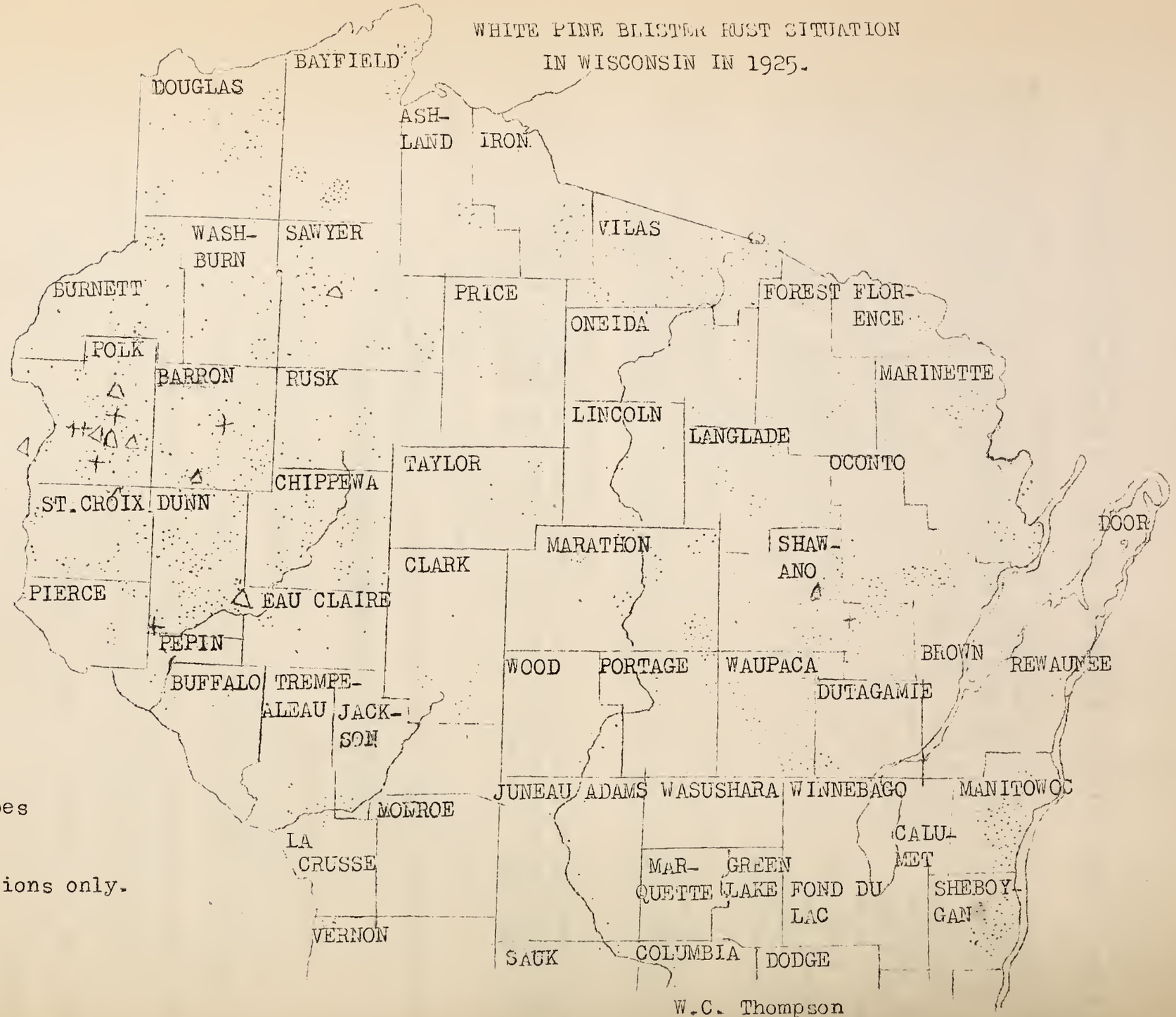
IN WISCONSIN 1916 - 1924.




W.C. Thompson
August 26, 1925.

Note: Ribes infections, though present, are not indicated when pine infections are shown.

WHITE PINE BLISTER RUST SITUATION
IN WISCONSIN IN 1925.




LEGEND

Distribution of white pine

△ 1925 Pine and Rubes infections

\+ 1925 Ribes infections only.

W.C. Thompson
August 26, 1925.

BLISTER RUST NOTES FROM NORTHERN NEW YORK.

During the month of July, the first blister rust infection on Ribes bushes in Lewis and Jefferson Counties was discovered: in the Towns of Croghan, New Bremen, Greig and Watson, in Lewis County; and in the Town of Champion in Jefferson County and in the Town of Russia in Oneida County. So far blister rust on pines has not been discovered in Lewis or Jefferson Counties.

Work at Lake Brantingham was completed where 44 cottage owners co-operated out of a possible 47. Lands owned by these cottage owners ran from 1/2 acre up to approximately 75 acres.

George E. Stevens.

A HASTY GLANCE AT MINNESOTA CONDITIONS.

Dr. L. H. Pennington in letter of August 22, writes concerning the blister rust conditions in Minnesota:

"Peel and Knutson seem to have done well thus far. They have found pine infection up as far as several miles north and west of Pine City (Pine County) They have found the rust upon Ribes as far west as Deerwood (Crow Wing County) and Lincoln (Morrison County).

I started this week by finding infected R. nigrum in two of four gardens with this species in Duluth (St. Louis County). There are undoubtedly more R. nigrum plantings there. White pines are numerous in the city and it seems to me very likely that the rust may be established there.

Peel and Knutson joined me Tuesday at the Cloquet Experiment Station (Carleton County) We were not able to find the rust at the Station but we did find it upon R. cynosbati within two miles of the station near Cloquet. This bush was close to young white pines in a field where there are a large number of young pines. A bush of R. nigrum 150 yards distant had no infection. We could not find infection upon the pine. We found infection upon R. nigrum near Brookston (St. Louis County) some 18 miles from Cloquet. We find some infection every day usually upon R. cynosbati. Yesterday two miles south of Aitkin (Aitkin County) and on the northwest shore of Mille Lacs Lake, Knutson also found one bush of R. oxyacanthoides and a small plant of R. triste directly under it, both infected. Peel found one bush of R. cynosbati on Mille Lacs Lake with the Coleosporium upon it.

Tomorrow we are going out in the direction of Mille Lacs to see if we can find pine infection."

REPORT OF BLISTER RUST CONTROL WORK NEEDED

ON LUMBER COMPANY'S LANDS IN MAINE, AUGUST 11, 1925.

This report covers areas to be eradicated, kinds and number of Ribes present, amount of infection noted, estimated cost of work and total acreage to be eradicated, tabulated according to divisions as given on type map of this area.

RIBES ON AREA AS WHOLE

1. Gooseberry (scattered)

   Locations:
   - Ledges principally
   - Rock heaps
   - Swampy runs

2. Wild Currant

   - Higher swampy runs
   - Overflow lands of lower brooks

3. Skunk Currant (Principal species)

   - Old cuttings
   - Swamps and runs
   - Ledges
   - Hardwood growth, on edges

4. Cultivated bushes

   - Around buildings

Pine Infection

Scattered over all pine area, MOSTLY RECENT INFECTION, oldest about SIX YEARS.

Ribes Infection

Practically all Ribes heavily infected.

Division of Areas

| | | |
|---|---|---|
| Division A | 1. Area to be eradicated | 240 A |
| | 2. No. pine trees infected | 105 |
| | 3. No. Ribes per acre | 100 |
| | RIBES SPECIES | |
| | Gooseberry | |
| | Wild Currant | |
| | Skunk Currant | |
| Division B | 1. Area to be eradicated | 168 A |
| | 2. No. pine trees infected | 33 |
| | 3. Ribes per acre | 70 |
| | RIBES SPECIES | |
| | Gooseberry | |
| | Wild Red | |
| | Skunk Currant | |
| Division C Peabody Farm | 1. Area to be eradicated | 70A |
| | 2. No. pine trees infected | 30 |
| | RIBES SPECIES | |
| | Gooseberry | |
| | Skunk Currant | |
| Division D | 1. Area to be eradicated | 39A |
| | 2. No. pine trees infected | 6 |
| | 3. No. Ribes per acre | |
| | RIBES SPECIES | |
| | Skunk Currant | |
| | Wild Red | |
| Division E | 1. Area to be eradicated | 10A |
| | 2. No. Pine trees infected | none |
| | 3. Ribes per acre | 40 |
| Division F | 1. Area to be eradicated | 5A |
| | 2. No. pine trees infected | 2 |
| | 3. Ribes per acre | 50 |
| | RIBES SPECIES | |
| | Skunk Currant | |

COSTS

Foreman - 50¢ per hour

Crew - Four, each at 40¢ per hour

Time - Fourteen days labor

TOTAL COST - $275 to $300

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   - Around buildings

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| | | |
|---|---|---|
| Division A | 1. Area to be eradicated | 240 A |
| | 2. No. pine trees infected | 105 |
| | 3. No. Ribes per acre | 100 |
| | RIBES SPECIES | |
| | Gooseberry | |
| | Wild Currant | |
| | Skunk Currant | |
| Division B | 1. Area to be eradicated | 168 A |
| | 2. No. pine trees infected | 38 |
| | 3. Ribes per acre | 70 |
| | RIBES SPECIES | |
| | Gooseberry | |
| | Wild Red | |
| | Skunk Currant | |
| Division C Peabody Farm | 1. Area to be eradicated | 70A |
| | 2. No. pine trees infected | 30 |
| | RIBES SPECIES | |
| | Gooseberry | |
| | Skunk Currant | |
| Division D | 1. Area to be eradicated | 39A |
| | 2. No. pine trees infected | 6 |
| | 3. No. Ribes per acre | |
| | RIBES SPECIES | |
| | Skunk Currant | |
| | Wild Red | |
| Division E | 1. Area to be eradicated | 10A |
| | 2. No. Pine trees infected | none |
| | 3. Ribes per acre | 40 |
| Division F | 1. Area to be eradicated | 5A |
| | 2. No. pine trees infected | 2 |
| | 3. Ribes per acre | 50 |
| | RIBES SPECIES | |
| | Skunk Currant | |

COSTS

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Crew - Four, each at 40¢ per hour

Time - Fourteen days labor

TOTAL COST - $275 to $300

Land to be eradicated is outlined in red on type maps made March 1922.

Land scouted by L.M. Rollins, August 1925.

Report by D.S. Curtis, Agent in Charge, Oxford County, Maine.

NOTE:

Number of infected pine reported, are just those seen when going over areas scouting for Ribes, a careful inspection would cause this number to be greatly increased.

Total Acreage - all land 4,000 Acres

Total Acreage - to be eradicated 509 Acres

Edit. The above report by Agent Curtis of Maine, was made to a lumber company after he had examined certain of their holdings preliminary to obtaining their cooperation in applying blister rust control measures. The report is concise, well prepared, and should be of decided interest to other agents.

## NURSERY INSPECTION IN MINNESOTA

Professor A.G. Ruggles, State Entomologist of Minnesota, under date of Sept. 1, writes:

"As far as inspection in Minnesota nurseries for blister rust is concerned this year, late inspection is practically impossible on account of a very severe and extended drouth which has caused very early defoliation of the large majority of Ribes in our nurseries. Up to the present time we have not found blister rust again in nurseries since 1919 and we have given special attention to those nurseries in which infection was found at that time."

Edit. Minnesota was the first state, I believe, to discover the fact that fall inspection of Ribes in nurseries, for blister rust, was absolutely necessary if a clean bill of health was to be given the stock.

WHITE PINE BLISTER RUST CONTROL IN VERMONT.

"In two districts, St. Johnsbury and Brattleboro, practically all of the white pine has been protected from the ravages of the white pine blister rust. These areas should be reworked in a few years to remove such currant and gooseberry bushes as seed in during the interim. There are a few areas in each district which have not been worked due to the scepticism of the owners.

Mr. W.E. Bradder, Agent, is now located in Rutland and Mr. S.V. Holden, Agent in Brattleboro, will move to Burlington about Sept. 15. Remember these dates and have the agents make a free inspection of your pine. There is a heavy infection this year on the currant bushes all over the state. Protect your pine before it is too late."

The Green Mountain State Forest News, Vermont Forest Service, Montpelier, Vt. p. 11.

FINDING THE "B" IN BLISTER RUST

Back in the summer of 1923 a bee tree was accidentally found in the woods by the Ribes eradication crew. When the boys who were armed with pails, an axe, and a saw, went to get the honey in the evening, State Leader Ninman was the honored guest. All went well and the oak was felled with no trouble. But soon the bees poured from the hollow trunk. With one swift glance at the on-coming swarm, the State Leader did "To the Rear, March", and ran to the far side of a barbed wire fence, where he stopped, turned around, and viewed the honey gathering with supposed security.

NOTE: The worst part of it was that the fence only had one wire, and the bees knew it.

-----Wise.

## THE VALUE OF A NOTE BOOK

The note book which I use is loose leaf, being seven by ten inches in size. It has the alphabetical index so that the contents may be arranged as to towns or headings. I find the book most valuable in the field as it contains the following information.

Under each town I have a list, as nearly complete as possible, of the town officers, pine owners, and leaders in the town, with their addresses. The eradication work which has been carried on in the town by years and projects such as:

| | Bristol | |
|---|---|---|
| 1921 | Town appro. $100 | |
| | Total expended $242.50 | |
| | Area covered 1912 acres | |
| | Avg. cost per acre .126 | |
| | Ribes destroyed 15,899 | |
| 1923 | One priv. cooperator Appro. | $50.84 |
| | Total expended | $63.56 |
| | Area covered 165 acres | |
| | Avg. cost per acre .652 | |
| | Ribes destroyed 163 | |

At the end of each season the above is totaled for each town. I also have listed under the town the number of land acres in the town and the closest estimate possible of the following; number of farms; number of acres tillage; acres waste land; acres merchantable timber; and acres of young valuable growth.

The following information is also contained in the note book and listed according to index:

A - MAILING LISTS

1. Boards of Trade with name and address of Secretary.
2. Forest fire wardens and deputies with their telephone numbers.
3. Town Forestry Committees.
4. Land Owners carrying on wood lot improvements or other silvicultural practices (with figures on certain lots)
5. Farm granges with names of Master and Secretary.
6. Miscellaneous organizations or clubs with name of President (where there might be opportunity to address meetings or get cooperation for meetings).

7. Blister rust personnel in state - addresses and telephone numbers.
8. Miscellaneous. Gypsy moth inspectors, Farm Bureau agents, and leading lumbermen.
9. Newspapers with names of editors.
10. Wood using industries in the district.

B - BLISTER RUST INFORMATION.

1. Number of towns appropriating.
2. Amount appropriated by towns.
3. Total amount expended.
4. Number of private cooperators.
5. Amount appropriated by private cooperators.
6. Total acres worked.
7. Total Ribes destroyed.
8. Total cost.
9. Average cost per acre.
10. Number of towns completed for first time.
11. Number of pine infections located by eradication crew on areas worked by year and town.
12. Name of owners of lots with infected pine (listed according to towns)
13. Figures on infection areas which have been run out in State.

C - FOREST DATA

1. Outstanding figures on forestry and general notes on all lines of forestry work.
2. Yield and volume tables of pine in New Hampshire.

D - MISCELLANEOUS

1. Outline for lectures or talks on Blister Rust, Forestry, National Forestry and the Farm Woodlot.
2. Population of district by town.
3. Valuation of real estate and total valuation listed according to towns.
4. General notes.

In a number of cases I have been able to give exact figures on the work by having the book with me and have proved conclusively that certain work was well done. This would have been impossible if I had not made use of the note book.

George F. Richardson, Jr.
Lebanon, New Hampshire.

SCOUTING FOR BLISTER RUST IN MICHIGAN

Particular attention in the first half of August was paid by Agent Frank J. Gibbs to scouting around Birmingham and Royal Oak, in Oakland County, where the blister rust had been found in a number of places in previous years. Cultivated black currants (Ribes nigrum) were found occasionally in different localities in the southeast portion of this County. No signs of blister rust however were found either on Ribes or on the numerous planted white pine. Mr. Posey made an inspection of pines and Ribes with Mr. Gibbs on August 15.

Several days were then spent in scouting between Port Huron and Lansing. Mr. Gibbs reports this part of his trip somewhat as follows: "Saw much native pine at Pine River, toward Lapeer. From Lapeer to Lansing pine was scarce, perhaps one every 5 miles. The last ten days in August were spent in the vicinity of Grand Rapids; the blister rust having been found on French-grown stock in the Martin place near Ada, in 1922 and 1923. Two suspicious looking pines were located in this plantation, but on Ribes there were no signs of the disease. Ribes cynosbati is abundant in the woods one half mile from the Martin pines. Scouting between Ada and Grand Rapids and in Grand Rapids failed to reveal any signs of the disease."

Writing of the Grand Rapids region Mr. Gibbs states that "The most noticeable thing here is the absence of black currants. Cultivated currants and gooseberries are not found on the small places, due to the low price on the market. Native pine is common in this region".

## THE OWNERSHIP OF A PINE WOODLOT GIVES AN AGENT A GOOD TALKING POINT.

### Agent Tarbox Practices What He Preaches

One day out in the pine woods in York County, Maine, Agent E.E. Tarbox was interviewing the owner relative to protecting the pine by cooperating in Ribes eradication. Said the owner to the Agent:

"Well look here, Tarbox, why don't you buy this farm? I'm going to cut this big stuff, (the pine and hardwoods) and move to town but there's a lot of young growth coming on." E.E. said, "I wasn't looking for a lot, but said I'd be out Sunday and go over it with him. On Sunday I sized up the property, did some estimating, and later telephoned that I'd take the lot at the price named." When asked why he bought cut-over lots Tarbox said:

"First, there's money in them; I never buy bare land and plant it, that's too long a wait for me. I buy a lot where there is young growing pine coming on and where I can get back the purchase price of the lot from the sale of cordwood within a few years, or from pine in case of necessity. Timber lots of this kind are scarce, but they can be found.

Second, the fact that I own timber lots on which I'm paying taxes, and that I'm protecting my pine by eradicating Ribes, is the best argument possible to use with pine owners who say they can't afford to apply control measures. I know they can afford it and they realize that I'm practicing what I preach.

Third, those lots of mine are paying better interest than any bank or bond, and are a sound investment, the fruits of which can be enjoyed in declining years.

Fourth, they furnish a splendid opportunity for the practical demonstration of what can be done to improve woodland through the practice of forestry."

WATCH THE TOURIST!

Tourists are making valiant efforts to undo all that the blister rust office has accomplished.

For three years Wisconsin has been trying to find some way to keep the general public from carrying blister rust and other forest tree diseases far and wide. Not until the present year have we gotten the message across successfully.

Conditions first became alarming in 1921. Before that a few cars might be seen carrying trees and shrubs along the roads in late summer but this attempt to move the forest into Illinois and Iowa did not take on the aspects of a concerted attack until then.

When only a few hundred trees a year are being moved, the high mortality reduces the danger of introducing blister rust into new areas. When the number reaches into tens of thousands, the menace is very real. In Wisconsin, during the tourist season of three months, 700,000 cars from other states are within our borders, considerably more than our own state registration. And of course, thousands of our own citizens visit the forest areas also.

First we tried education through paper posters on camp grounds, in post offices, and along roads. The 1922 poster was attractive, in colors, on high grade paper. This was followed in 1923 and 1924 by manilla posters, somewhat more blunt and not so classy. Both types accomplished some good ---- but there was too much moving of trees to be safe.

This season we asked the highway commission to prepare and put up fifty large wooden signboards, matching those giving road directions. They are three by five feet in size and can be read in full by the driver of a car going at thirty miles an hour. In fact, he can hardly avoid getting the message, no matter what his speed.

The signs read:

"TRANSPORTING TREES AND PLANTS

PROHIBITED BY LAW.

INSPECTION REQUIRED TO PREVENT SPREAD OF INSECT PESTS

AND PLANT DISEASES.

ADDRESS:

STATE DEPARTMENT OF AGRICULTURE. STATE CAPITOL

MADISON, WISCONSIN."

Co-operation with other law enforcement agencies include all conservation and game wardens who are especially deputized for the purpose. The chief of police in each village and city has also been asked to assist. The barberry eradication scouts, numbering thirty on the road continuously, report the license numbers of cars carrying trees.

In spite of watchers, very few such cars have been seen this season. Previously they have been numbering over six hundred a year. The writer in an 1800 mile trip throughout the summer resort sections, covering two weeks, saw only four such cars and one of them was just entering from an adjoining state, bringing the trees with him. More cars with pine and other trees were seen in two hours spent across the border in another Lake state, than in two weeks in Wisconsin.

Tourists stopped by game wardens, barberry scouts, and others are given the choice of destroying the trees or sending them to Madison for inspection without cost. Nearly all, in past years, have preferred destruction.

The highway signboards cost about seven dollars apiece installed. Only fifty have been erected on 10,000 miles of state trunk highway. They are so effective that we plan to put up another twenty-five next season as well as maintain the ones already in place.

White pine blister rust in Wisconsin is confined to a limited section of the state. No nursery certificates covering white pine in that area are issued. If the tourists can be controlled, the spread of blister rust can be kept down to a very low rate.

S.B. Fracker
Wisc. State Entomologist

SUGGESTION TO EDUCATIONAL AGENTS

Pine owners when shown blister rust specimens, often speak to this effect: "I have seen that on the trees in the woods many times". It is found on investigation that many of these cases are instances of inaccurate identification on the part of the owner.

It has occurred to me, that where pine specimens infected with blister rust are on exhibit, that other specimens of white pine troubles present in the community should be shown for purposes of comparison. The writer has successfully used samples of the pine needle scale, the chermes, the pine weevil, the saw-fly, the damage caused by the sapsucker, along with the blister rust display. The specimens of course were labeled carefully.

W.C. Thompson, Wisc.

Edit: Most of the common enemies of white pine have been described in Bul. 1 New Series of the Rhode Island State Board of Agriculture, Entomological Department, by Martin, Stene, and Sheals. This Bulletin is probably available from the Rhode Island State Board of Agriculture.

## BLACK CURRANT ERADICATION IN CALIFORNIA.

Black currant eradication in White Pine Blister Rust Control has been steadily making headway during the past two months. Two men, up to a recent date, have been working in Sonoma and Lake Counties. Two others are now in Nevada County.

The following gives the number of plantings and bushes removed during June and July.

| County | No. Plantings | No. Bushes | Remarks. |
|---|---|---|---|
| Tehama | 2 | 3 | County Completed |
| Plumas | 21 | 194 | " " |
| Sonoma | 29 | 350 | " nearly " |
| Sierra | 17 | 84 | " " " |
| Total | 69 | 631 | |

The work is continuing under a new cooperative agreement, effective July 1, 1925, between the California Department of Agriculture, the State Board of Forestry and the Federal Office of Blister Rust Control.

Weekly News Letter - Calif. Dept. of Agric. Aug. 22, 1925.

## NOTES FROM HILLSBOROUGH COUNTY, NEW HAMPSHIRE.

Henry W. Robb of Hillsborough County, New Hampshire, attended a field day meeting of the Farm Bureau at Francestown, at which there were 350 present on the 14th of August. A special blister rust demonstration was carried on in a woodlot nearby.

On August 27 and 28 a blister rust control exhibit was staged at the Greenfield Fair, at which fair there was an attendance of 27,000.

## EXPERIMENTAL WORK IN BLISTER RUST CONTROL ON THE EAU GALLE DEMONSTRATION AREA IN WISCONSIN.

The blister rust control demonstration area which is located at Eau Galle, Wisconsin, was established in 1922 for a five or ten year period. It contains 3,167 acres or 75 different types including both pine and hardwood. The purpose of the area is to secure by experiment the facts and the figures to show for various types the growth of Ribes from an ecological standpoint, the best methods of Ribes eradication, and the "come-back" of Ribes after eradication. Some valuable and interesting information has already been obtained. On the basis of preliminary summaries of the work to date, the following facts are indicated:

The cost of Ribes eradication varies from one cent per acre in an open pasture type which had 21 bushes per acre to $3.26 per acre in a mixed hardwood and pine type which had 163 bushes per acre. The cost of eradication per bush varies from six mills with 183 bushes per acre to $2.25 with 0.6 of a bush per acre. In general the cost to eradicate hardwood types is more than for pure pine types. The eradication along fence rows and highways is most expensive.

Bushes pulled in dry weather and left on the ground die much more readily than when bushes are pulled in wet weather. Because a bush shows signs of life the first year after it is pulled it does not indicate that it will survive the following season.*

Pulled bushes do not layer freely when only the branches touch the ground - - only two cases of such layering were found on the whole area and these were questionable. Growth from the roots of the eradicated bush is a rare occurrence if the soil is well removed from them.

* Mr. H.J. Ninman had a note in Blister Rust News, March 15, 1924 on "Observation on Rooting of Ribes after Eradication".

Sprouts from the parts of the bush that remain in the ground at the time of pulling are an important consideration. In hand-pulling some of the smaller stems are stripped of leaves. Unless the worker is especially careful the naked stems are likely to be missed. Hand-pulling also often breaks the bush above the crown, which if left, almost invariably results in sturdy sprouts. The two-pronged pick, which has been used for the ordinary eradication on the Eau Galle Area, removes the crown thoroughly but leaves a few side-root pieces. Root-ends and crown-pieces which are covered by soil do not send up shoots as readily as those exposed to sunlight. In many instances it has been observed that sprouts from the crown or root-parts, do not occur until the year following that of the eradication of the bush.

One cause of considerable inefficiency in crew work (missing bushes) is the concealment of Ribes by other plants, especially by those which have leaves similar to Ribes. One of the most noticeable examples of this is the red raspberry, the young leaves of which are not tri-parted, but lobed, and resemble Ribes leaves.

It was surprising to return to a plot where an experienced Ribes eradication crew had obtained a 90% efficiency a few years before and to see the new Ribes growth. For the most part, the bushes were seedlings of the year when the eradicating was done, or seedlings of the following year. Many of the seedlings were found in the place where the bush had stood and undoubtedly came from berries that had dropped into the loose earth at that spot when the Ribes bush was removed.

W.C. Thompson.

## ANNUAL FORESTRY CONFERENCE

## IN NEW HAMPSHIRE

The Annual Forestry Conference under the auspices of the Society for Protection of New Hampshire Forests and the State Forestry Commission with the cooperation of the Appalachian Mountain Club and of the Chocorua Mountain Club met at Camp Allegro on Silver Lake, Madison, New Hampshire, September 2 to 4.

On the program for September 2, was a conference on the progress of control of white pine blister rust. If there were no otherreason for extending blister rust control as fast as possible to the pine stands of New England than the following terse statements on the back of the Conference program, this would be sufficient:

"New Hampshire produces only 47% of the timber annually consumed.

New England produces only 12% of the timber consumed.

Some of our new buildings in New Hampshire are made with Oregon timber, that travels 5,000 miles through the Panama Canal, and pays a freight of $18.00 per thousand feet to Boston, in addition to the freight charges from Boston into New Hampshire, plus cost of handling in Boston and a dealer's profit in Boston, plus the original cost of the timber delivered at the sea coast in Oregon.

It is estimated that New England pays more than $6,000,000 annually for freight alone on imported lumber.

In New Hampshire the State Forester's report shows nearly 2,000,000 acres of idle forest land.

In New England there are 10,000,000 acres of idle forest land."

With adequate control of the blister rust white pine should find a big field in reforesting these millions of acres of idle forest land.

## WHITE PINE IN THE SPRUCE REGION OF NORTHERN NEW HAMPSHIRE

While scouting for Blister Rust infection this summer, the writer was quite surprised to find some excellent white pine stands in northern New Hampshire. This was supposedly a spruce and balsam section and although these trees are in the majority for evergreens, the pines are coming in thick and fast. Along the Androscoggin River from Milan to Shelburne, a distance of fifteen miles, some wonderful lots are in the making. The Brown Paper Co. of Berlin owns the majority of pine stands and seems bent on taking exceptionally good care of them. It also maintains a nursery where pine is planted and it is their intention of setting out white pines every year.

It might be added that no better cooperation was ever given than that tendered to the writer in this locality. The Blister Rust crew is covering every one of the white pine lots in Shelburne and some in Berlin and Milan. The Brown people are even extending their work into Maine. The cost of this work is all met by private funds and State aid.

Thomas L. Kane
Agent in No. Grafton & Coos County, N.H.

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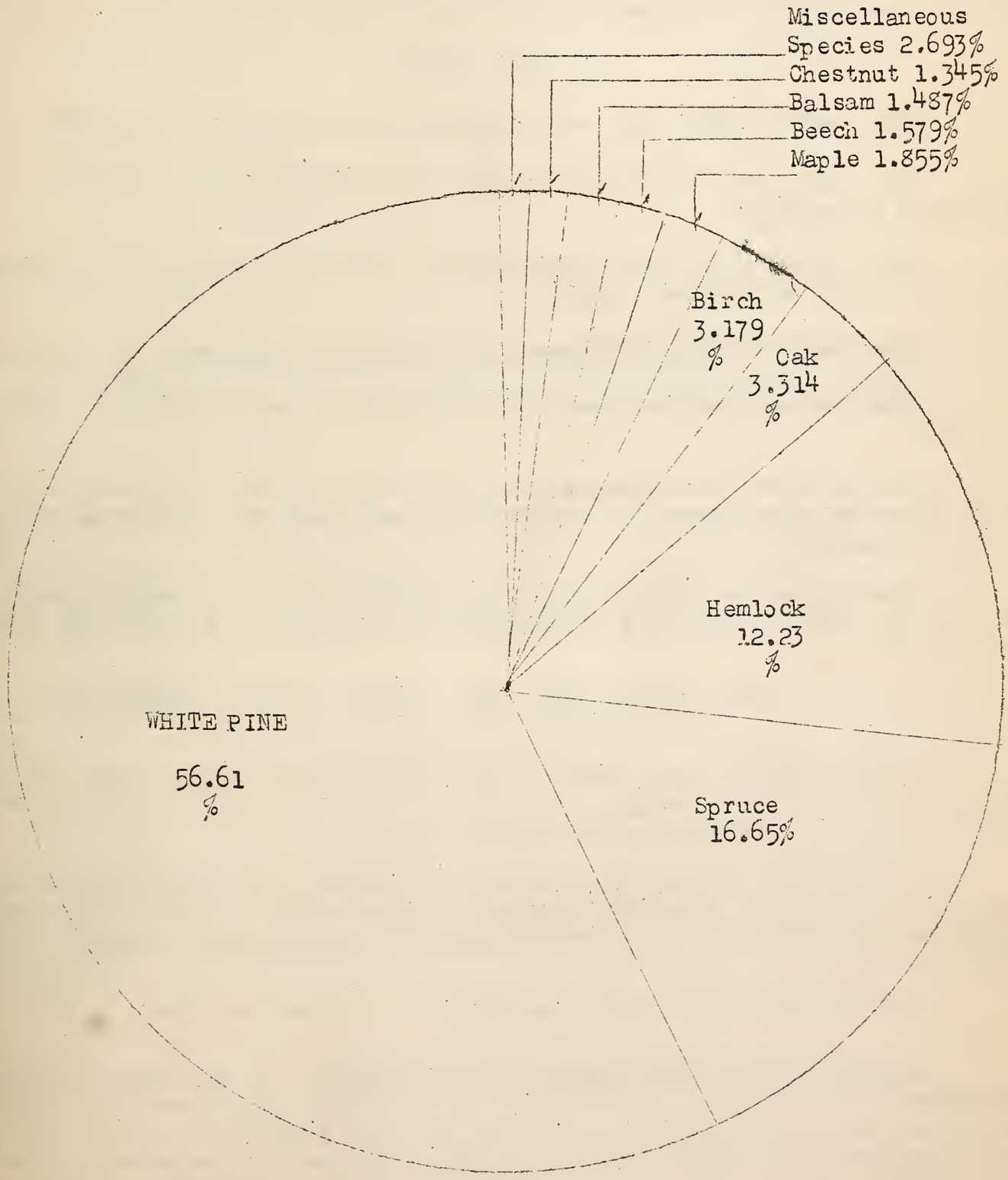
## NEW HAMPSHIRE PUTS OUT NEW LEAFLET

Note the leaflet on the opposite page which State Leader Newman has recently produced. These leaflets, Newman writes, will be used by the Agents in their general correspondence in the state.

# THE LUMBER CUT BY SPECIES in NEW HAMPSHIRE




See Reverse Side

## NEW HAMPSHIRE WHITE PINE

The importance and value of white pine is becoming more and more appreciated not only in New Hampshire, but throughout the Northeastern States as well. It is a prolific seeder, a rapid grower and exhibits remarkable ability to thrive on a variety of soils. Lands cleared years ago for cultivation or pasturage are now covered with excellent stands of white pine; in fact, in many parts of the state it is the best crop that can be produced.

DO YOU KNOW:

That nearly 50% of our wood products are made from white pine?

That more than 9,000 persons gain their living from industries utilizing white pine?

That families have been educated and mortgages paid off, all through the help of the white pine woodlot?

That nearly 68% of New Hampshire timberlands are owned by individuals?

That aside from fuel wood, white pine is the main product of their woodlots?

That only twenty-three years ago the value of white pine was slightly over $4 per thousand board feet; while today an owner may receive as high as $12 per thousand?

That there are communities in New Hampshire whose industries have thrived for years - - and are still doing so - - owing to a plentiful supply of white pine?

IS THIS NOT AN ASSET WORTH PROTECTING?

- - - - - - - - - - - - - - - - - -

Blister Rust, a bark disease fatal to white pine growth, has been found generally distributed throughout the state. It has already caused loss to many owners and is continuing its deadly work.

Blister Rust spreads from infected to healthy pines only through the medium of currant and gooseberry bushes; both wild and cultivated. It costs but a few cents per acre to locate and destroy these plants, so dangerous to white pine growth.

Are Not Your Pines Worth More Than A Few Cents Per Acre?

- - - - - - - - - - - - - - - - - -

An Agent of the U.S.Department of Agriculture and the State Forestry Department is located in your county. He is there to look over your woodlot and to assist in its protection. If you have not received this service, get in touch with the County Blister Rust Control Agent; he is located at the County Farm Bureau. Why not call him on the phone or write him today?

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N.H. Forestry Comm. cooperating with U.S. Department of Agriculture.

FOREST SERVICE EXPRESSES APPRECIATION.

UNITED STATES DEPARTMENT OF AGRICULTURE,
Forest Service,
Kaniksu National Forest.

Newport, Washington,

Fire Cooperation - Kaniksu

August 29, 1925.

Mr. Stephen N. Wyckoff,
Office of Blister Rust,
618 Realty Bldg.,
Spokane, Washington.

Dear Mr. Wyckoff:

As Supervisor of the Kaniksu National Forest, I wish to express my appreciation of the excellent spirit of cooperation which characterized the work of your men on the forest this season when called to assist in suppressing forest fires.

I know that it has been a serious set-back to your own plans and work to have the men taken off so often to assist in fighting fires and I also know that fighting fire is by no means a desirable job and that it meant considerable inconvenience and discomfort to your men to do the good work which they have done throughout the season in suppressing the unusual number of fires which occurred on the forest.

I understand that on account of your cooperation on fire it will probably not be possible to cover any of the Upper Hughs Fork Drainage and it will even be difficult to complete the Upper Priest River Drainage this season. These facts are both regretted but under circumstances the delay was unavoidable and I am writing this letter simply to let you and the men know that I appreciate your problem and that the Forest Service feels that the Blister Rust Office has rendered them a service which means a whole lot to the future welfare of the Kaniksu Forest. It will probably be a long while before we will ever be confronted with a situation as we were this season and the response that the Blister Rust organization has given in the emergency will not be forgotten.

Very truly yours,

(Signed) J.C. Whitham, Forest Supervisor.

MASSACHUSETTS HAS A BIG PINE.

While the Oliver Wendell Holmes Pine does not measure up to the big pine at Ossipee, N.H. noted below, it is of interest because of its great size and because of its associations with the famous poet.

Mr. J.R. Simmons in his "Historic Trees of Massachusetts" 1919, writes of this old tree - - "The glory of the Berkshires is in its mountains and its trees. As you walk along the old road to Lenox, you will mark in a wide sweep of lawn the lone and superb pine so much loved by Dr. Holmes. 'Canoe Meadow' was a carrying place of the Indians, and held everything that he most delighted in. Here at last is an historic pine, one of the favorite trees of a noted personage, and an excellent representative of our great New England conifer. You measure its trunk and find that it is 16 feet 4 inches in girth; you wonder at the great depth of its shadow and find that the spread of the branches is nearly 90 feet; and you look upward to its topmost branch and find, if you have a measuring instrument, that it is 97 feet from the ground. There may be a larger white pine than this somewhere in Massachusetts; but where shall we look for it?"

In the April number of Blister Rust News, Agent Boomer noted a white pine 150 feet high and 18 feet in circumference, in the town of Ossipee, N.H. The old pine at Lenox is fit company for the five foot diameter pine at Old Fort Dummer near Brattleboro, Vermont, and the old veteran at Ossipee, N.H.

Note: I've heard that there were once big pines in Maine, but probably they have all been cut?!

REPORT OF WORK FOR AUGUST
Western Branch, Office of Blister Rust Control.

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1. Cultivated Black Currant Eradication.

California: Root reports work being carried on in Nevada, Placer, Lake and Sonoma counties. 50 plantings, representing 224 bushes were eradicated.

Oregon: Goodding reports Union, Baker, Klamath and Lake counties as completed. 57 plantings, representing 202 bushes, were located and eradicated.

Washington: Bartow reports Okanogan County as completed. During the month 3235 places were visited in this county. 115 plantings representing 834 bushes, were eradicated.

Idaho: Stephens reports Gooding, Jerome, Lincoln, Blaine, Elmore and Ada counties as nearly completed. 95 plantings, representing 564 bushes, were eradicated.

Montana: Johnson reports Stillwater, Carbon, Park, Wheatland and Sweet Grass counties as completed, and work under way in Gallatin County. 20 plantings, representing 82 bushes were eradicated.

2. Ribes Eradication

Upper Priest River, Idaho: the serious fire emergency on the Kaniksu National Forest during August resulted in the two blister rust camps entirely giving up their regular work for part of the month. All men were on fire duty, 683 man-days being spent on fire time. In spite of this interruption, 605 acres of land were worked. 94,287 wild Ribes were pulled, thus averaging 156 bushes per acre. The average Ribes per acre on this project in June was 35, and in July 77. In addition to the great increase in August, difficult working conditions, consisting of dense brush and reproduction, and heavy windfall were encountered. The cost of this work will undoubtedly be high.

Oregon: Melis reports 606 acres of land worked in August. The Ribes consisted of the following species in numerical order of importance: *Ribes lacustre*, *Grossularia klamathensis*, *R. sanguineum*, *G. lobbii*, *G. cruenta*, *G. binominata*, *R. viscosissimum*, and *R. cereum*. A total of 30,900 Ribes were pulled by the two crews, constituting an average of 51 per acre. Different parts of the area showed variation of from 2 bushes to 212 bushes per acre.

3. Blister Rust Reconnaissance

Federal Lands: Putnam reports 16 sections covered by intensive reconnaissance on the Kaniksu National Forest, and 15 sections covered by intensive recon-

naissance and 38 sections covered by extensive reconnaissance on the Coeur d'Alene National Forest, during July. These are being conducted on both burned and cut-over lands. All age-classes of timber are represented, a considerable share of the work being done in stands of second growth under 60 years of age.

Private Lands: Cooperative reconnaissance work in the 5 timber protective associations has resulted in 75 sections being studied during July and August. This work has been hampered by fires, 185 men-days having been spent on fire duty by these reconnaissance crews.

4. Experimental Chemical Eradication.

During August, the chemical experiments on the one-acre plots #1 and #2, at Santa, Idaho, were completed, and 3 additional plots, of similar size, were laid out, Ribes data taken, and experimental work completed. 13 chemicals were applied in different concentrations and by different methods of application. These plots contain R. lacustre and G. inermis, with an average of 1,000 bushes and 15,000 feet of live stem per acre plot.

5. Ecological Study.

During August, the following work was undertaken and completed: (1) plant census data on seven areas, representing different age-classes of timber; (2) collection of leaves from 100 bushes of R. lacustre and 75 bushes of R. viscosissimum to determine relation of leaf area to live stem; (3) collection of Ribes leaves at several times a day and from different site conditions from which to measure photosynthesis under various light conditions (4) planting of seeds of R. lacustre and R. viscossissimum on 22 one-meter plo to determine effect of coniferous duff on Ribes germination; (5) taking of meteorological and soil temperature records.

Stephen N. Wyckoff
Pathologist.

## PERSONAL

Mr. J. F. Cannon of the Washington Office returned to Washington Monday, Aug. 31, after a seven weeks' sojourn (vacation some call it) in the Adirondacks. While working with Mr. Fivaz at North Hudson he was engaged in the compilation of data on growth of Ribes and experimental control areas with a view to punching data on Tabulation cards. The use of these cards makes it easy to summarize the results of all work carried on at the North Hudson experiment area in the past five years.

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Mr. G.B. Posey left Washington on Sept. 10th, for a short conference with Mr. S.B. Detwiler and Dr. L.H. Pennington, with Dr. H.T. Gussow at Ottawa, Canada.

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Dr. J.F. Martin took a short vacation during August and spent part of the time in Prince Edward Island with his family.

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Mr. Earle M. Brockway, Aug. 25, - "In Pembroke all day with scouts. Found quite a few flowering currants and cultivated Ribes all badly diseased.

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State Leader Floyd M. Callward of Vermont (also known as Henry Carver of "The Pines" our latest motion picture) resigned from the Office on July 1, and assumed his new duties as Extension Forester in Vermont. He will work under the provisions of the new Clark McNarry Act.

While we hate to see a good man go we also rejoice in his success. Here's to you, Callward in your new job ! !

Mr. George E. Stevens, of Lowville, New York, writes:

"Started eradication work on August 3, on land of Elihu Root at Clinton and interviewed Mr. Root on the 4th.

Have arranged for blister rust exhibit at the Gouverneur and Waterton fairs, also those at Rome and Lowville.

## NOTES FROM THE OFFICE OF FOREST PATHOLOGY.

ELLSWORTH BETHEL

It is with regret that we announce the death of Mr. Ellsworth Bethel, Pathologist, on September 8, 1925. Mr. Bethel has cooperated with this Office in the study of the white pine blister rust and the pinyon blister rust and was well known to many of us.

Dr. Perley Spaulding has now definitely taken up headquarters at the Northeastern Forest Experiment Station at Amherst, Massachusetts. While he will be engaged in general forest pathological work in the district comprising the New England States and New York, he wishes it to be distinctly understood that he retains a keen interest in the white pine blister rust.

Dr. Spaulding plans to cooperate as closely with the Office of Blister Rust Control in the future as he can, considering the more general nature of his present work. He is particularly anxious to learn of the presence of the pitch pine - sweet fern rust in any new locality, and also to learn of any serious outbreaks of other tree diseases which occur in the district and to receive specimens of the same.

# PUBLICATIONS

Anon. Report of the Proceedings of the Tenth Annual Blister Rust Conference Held in Washington, D.C. Feb. 18 to 23, 1925. Mimeographed - 153 pages.

Rust Control Kills Gypsies. Pine May be Insured.
Great Woods Menaced.
The above three short articles appear in "The Plymouth County Farmer" Vol. X No. 8, Aug. 1925, p. 2.
Edit. - Short articles like these which Mr. Brockway gets in the Plymouth Co. Farmer emphasize the value of the Pines but always tie in the subject with blister rust control.

Blister Rust Quarantines - Notice of Public Hearings to Consider the Advisability of Amending and Extending the Existing Quarantines on Account of the White Pine Blister Rust (Cronartium ribicola Fischer) Service and Regulatory Announcements of the Federal Horticultural Board, April - June 1925. Pgs. 41-43. August 1925.

New Hampshire's Most Valuable Forest Crop - White Pine. Circ. No. 11. N.H. Forestry Commission and U.S. Dept. of Agric. Cooperating, Sept. 1, 1925.
Note. Some of the headings of this circular include Present Known Distribution of Blister Rust in New Hampshire.
Summary of Pine Infection Areas in N.H. 1919 to 1924.
What has been accomplished in the Control of Blister Rust.
Map of N.H. showing Results of White Pine Blister Rust Control.

Klebahn (H.) - Kulturversuche mit Rostpilzen. XVII. Bericht (1916-1924) (Culture experiments with rust fungi. XVII.) Report 1916-1924) Zeitschr. fur Pflanzenkrankh. xxxiv. 7-8. pp. 289-303. 1924.
The Review of Applied Mycology, June 1925, p. 375, 376. Two bushes of Ribes nigrum strongly infected with Cronartium ribicola were transplanted in the autumn to Hamburg after their defoliation but without pruning them. The disease failed to reappear on them in the next summer, and inoculation attempts with uredospores failed to reproduce the infection. The author, therefore, is not inclined to believe that the overwintering of the fungus on bushes of Ribes is a frequent occurrence or plays any important part in the preservation of the organism.

Martin, J.F. - White Pine is Profitable if Protected from Blister Rust. Misc. Circ. No. 40. U.S. Dept. of Agric. 8 page colored leaflet July 1925.
Note! ! This is the colored leaflet which you have been looking for since June, to take the place of the "Jack Frost" leaflet, our supply of which was exhausted.

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

CONTENTS - Vol. 9. No. 10

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Plant Industry
Washington, D.C.

# THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 9, No. 10 RHODE ISLAND NUMBER Oct. 15, 1925.

Hello Agent:

Little Rhody is heard from in this number. State Leader Anderson has gathered some solid facts to show how valuable white pine is, and how important it is in Kent County. This bears a direct relation to blister rust control. Too bad we haven't exact figures on production, use and relative standing and value of white pine for all our pine counties, isn't it?

Another hectic eradication season's over and the old bandanna used to wipe away the sweat of Ribes pullin' can be laid away for another six months.

Well Agent, now's the time to plan for more and better work next year; to do some needed missionary work in that town away off in the upper left-hand corner of your district, and to strengthen the desire for control work up in the northeastern towns too. Mebby the rust shows up bad by now so that them pine owners are getting worried and will "talk turkey" with you.

Here's to you, Agent!

Ribes Bill

# THE PRODUCTION, VALUE AND USE OF WHITE PINE AND OTHER WOODS IN KENT COUNTY RHODE ISLAND IN 1924.

## I. PRODUCTION

The following facts were obtained from a survey of sawmills and cordwood jobbers in Kent County, Rhode Island concerning their activities during the year 1924. These operators were reached through directories, town officials, and through personal acquaintance. Information was almost without exception given freely.

Chart #1 will give a graphic picture of the percentage of land area in this county devoted to forest land. Forty-one per cent (41%) of the total land area is now under some kind of forest growth, amounting to about 45,000 acres. These figures are based upon State Census estimates.

Chart #2 divides the five principal products according to the amount of return from each. Lumber brought the largest return of $89,691, railroad crossties brought $35,250, and cordwood placed third in the scale of return with $20,220.

Chart #3 gives a graphic picture of the amount of lumber sawed from the five most important species, together with the value of the lumber sawed. White pine leads in the amount sawed with a cut of 1,237 M bd. ft. Oak is a poor second with a cut of 460 M bd. ft., or 20% of the total. 345 M bd. ft. of chestnut were cut with lesser quantities of hard pine and maple. The total of all five species shows that there were 2,232 M bd. ft. sawed in this county in 1924. In returns from lumber sawed, oak leads with approximately $42,300; white pine is second with a return of $34,636 and chestnut $6,765, a poor third. This chart is an attempt to compare the monetary re-

turns with the amount of sawed lumber produced by species. To do this it was necessary to place the production column and the value column upon the graph according to a set ratio. This is assumed at 10 ft. - $1.00.

Chart #4 shows the return from Forest Products (including lumber, cordwood, poles, posts, and ties) according to the species. Oak leads with 50% of the return or $78,987. White pine is second returning $34,636 or 24% of the total. Chestnut places third at 19% or $29,788. Maple returned 8% or $12,050. The total returns from all species were $156,451.00.

Table #2 is a capitulation of the amounts of various kinds of forest products according to the species.

Table #3 gives the average values of the various products.

O.C. Anderson.

Edit: The tables produced by Mr. Anderson were referred to the United States Forest Service for comment. The following suggestion has been offered by Mr. Chas. W. Boyce, Forest Service.

"The price of oak plank used in the accompanying charts seems to be about $20 too high. It is a very difficult matter to obtain any satisfactory prices on New England hardwoods because of total lack of grading rules and uniformity in selling practices. But comparing this price with prices which the chair manufacturers of the region (New England) were paying in the spring of 1923, $90 seems too high. Of course, you are dealing with a very restricted area, and the price may be correct. However, I believe it would be worth while to check this figure because it makes the value of oak appear high in your other charts."

Chart #1

ESTIMATED LAND USE IN KENT COUNTY. (Based on State Census figures)

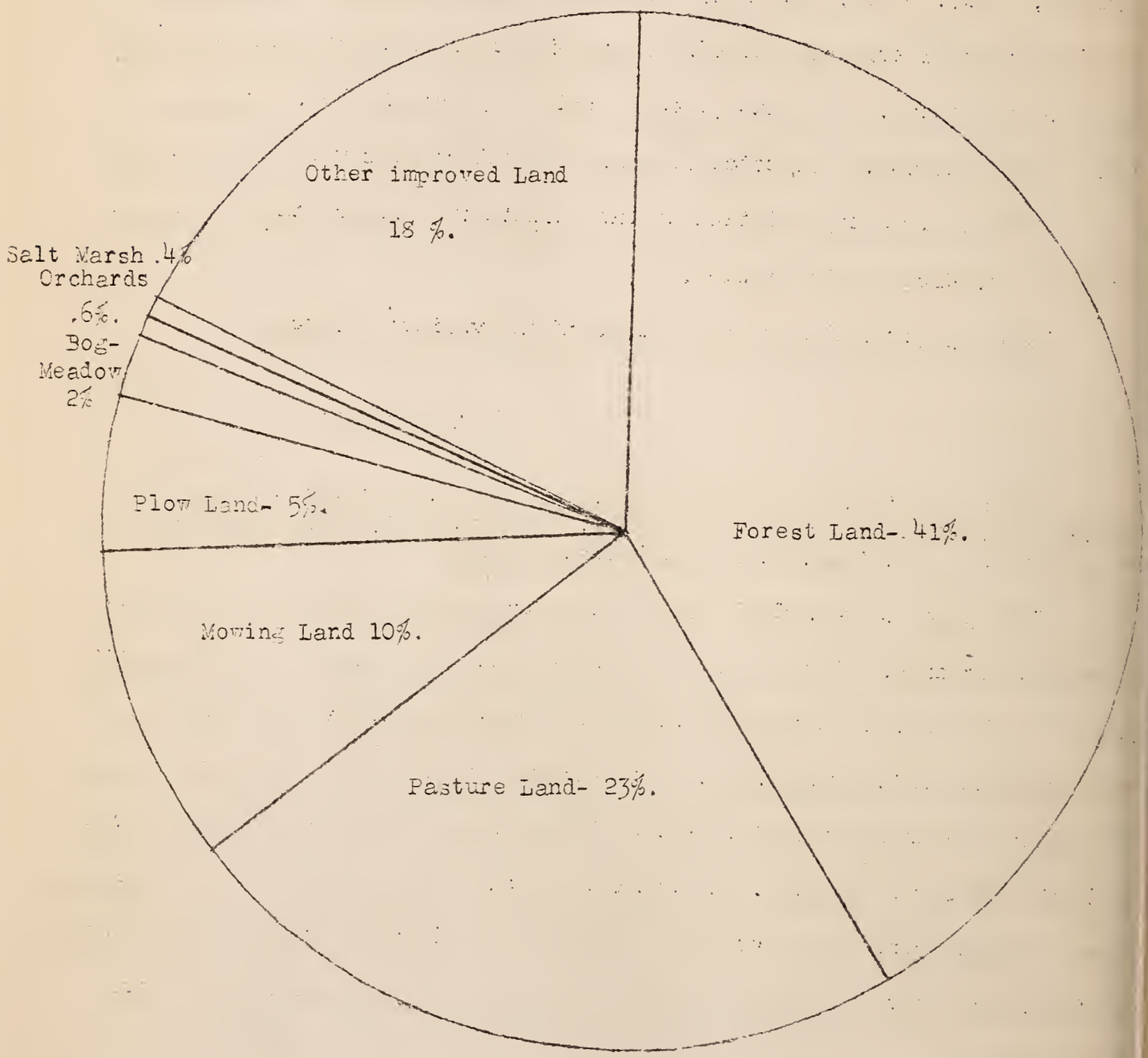


Table 1

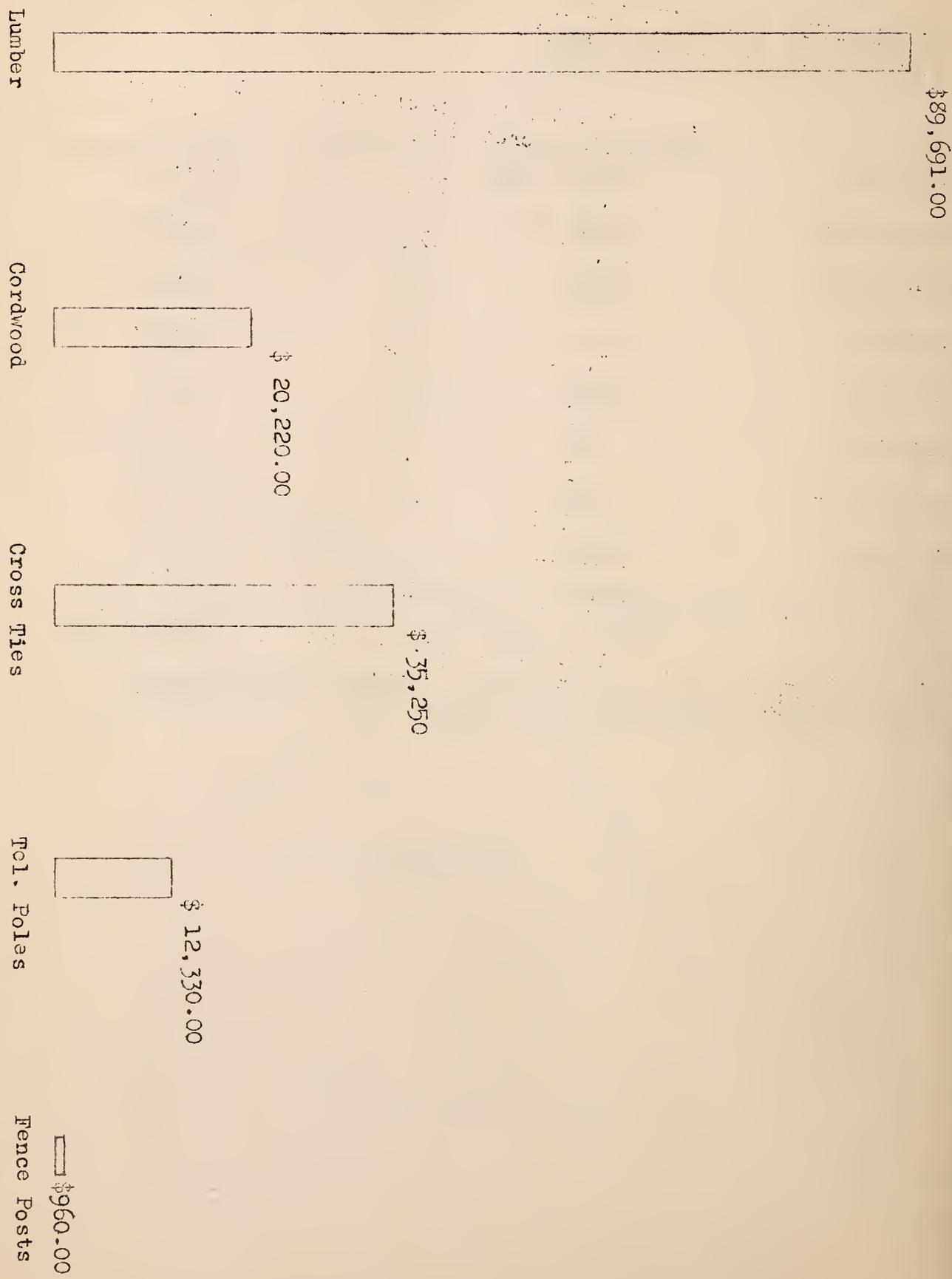
ESTIMATED LAND USE IN KENT COUNTY
( based on State Census figures)

| Use | Present estimate | % of total | Census figures |
|---|---|---|---|
| Forest Land | 45,000 acres | 41 % | 30,932 |
| Pasture Land | 25,000 | 23 % | 19,158 |
| Mowing Land | 12,000 | 10 % | 8,742 |
| Plow Land | 6,000 | 5 % | 4,639 |
| Bog Meadow | 2,000 | 2 % | 1,607 |
| Orchards | 700 | .6% | 683 |
| Salt Marsh | 300 | .4% | 349 |
| Other uses | 20,000 | 18 % | 11,486 |
| | 111,000 acres | 100% | 77,596 acres |

There are 111,424 acres in Kent County. Census figures account for but 77,596 acres use out of the total.

Chart #2

VALUES OF FOREST PRODUCTS FROM KENT COUNTY IN 1924.



COMPARATIVE PRODUCTION AND VALUE OF LUMBER IN KENT COUNTY IN 1924.

Cross-hatched column denotes value of lumber in $10,000 units.

Plain column denotes production in 100,000 bd.ft. units.

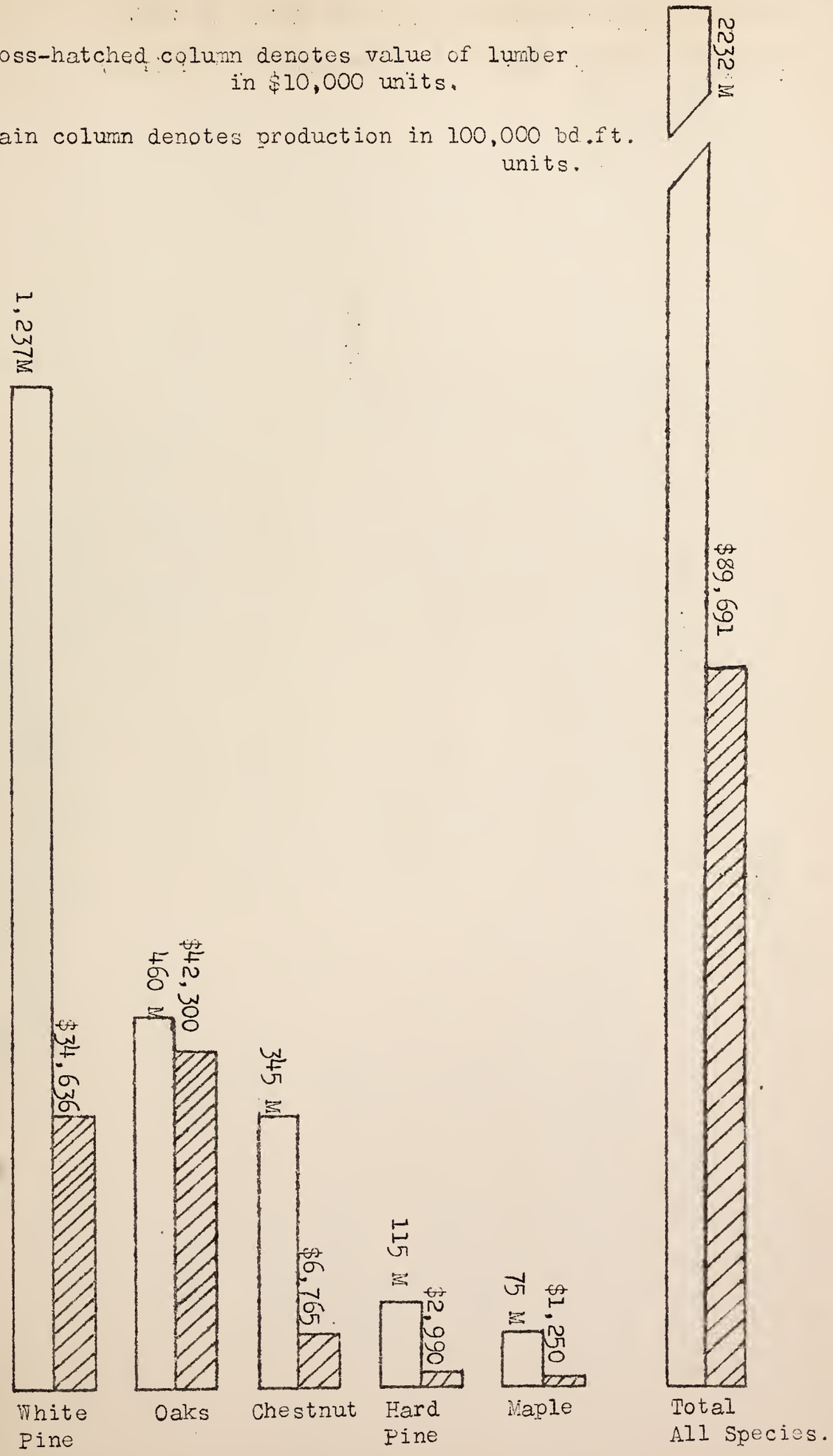


Chart #4

VALUE OF FOREST PRODUCTS FROM KENT COUNTY IN 1924,

(includes Lumber, Cordwood, Poles, Posts, and Ties)

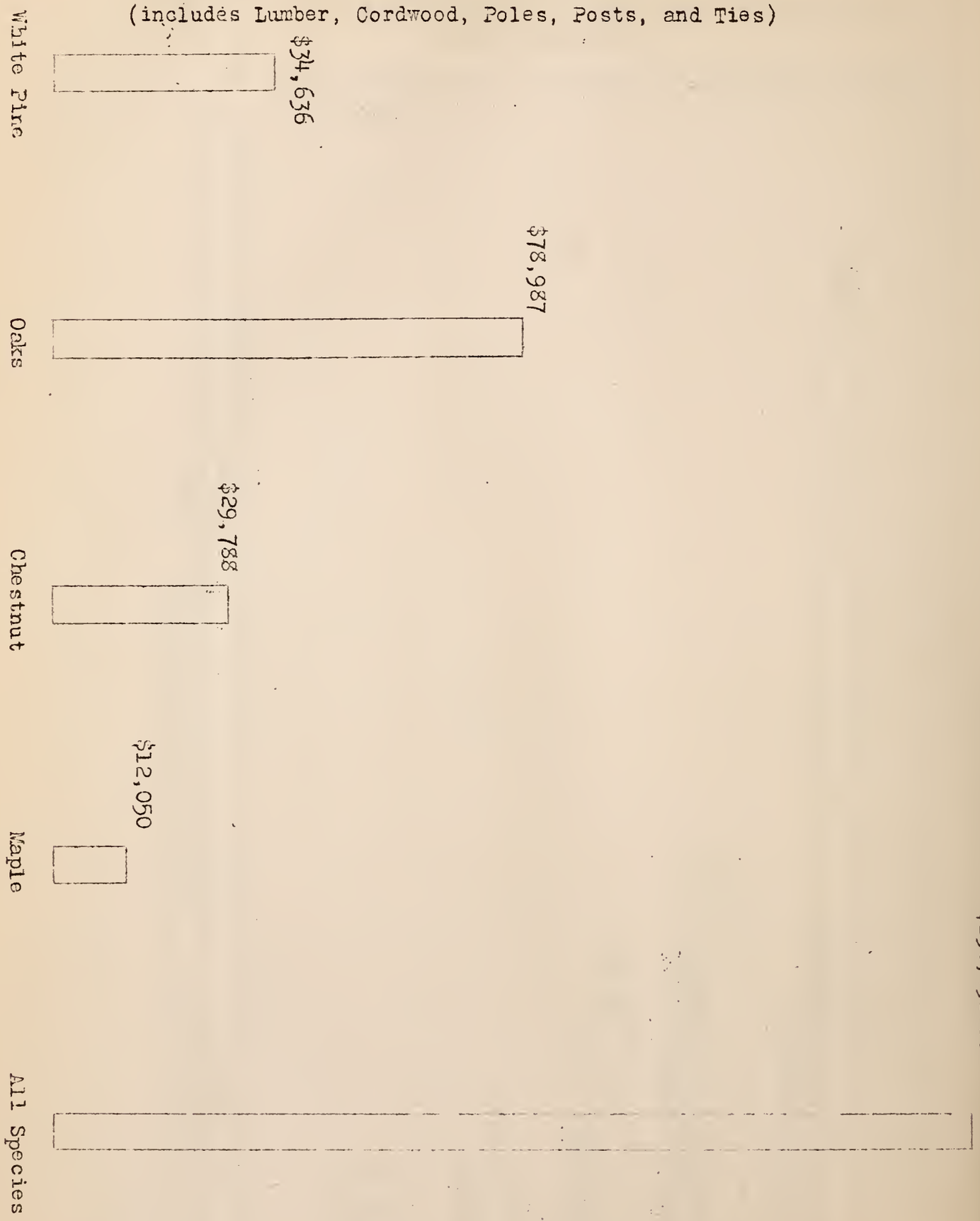


Table 2 FOREST PRODUCTS FROM KENT COUNTY

| Species | Amount bd. ft. | Cordwood cut | R.R. Ties | Fence posts | Tel. Poles. |
|---|---|---|---|---|---|
| White Pine | 1237 M | --- | --- | --- | --- |
| Hard Pine | 115 M. | --- | --- | --- | --- |
| Oak | 460 M. | 1500 cd. | 26,100 | 290 pcs. | --- |
| Chestnut | 345 M. | 820 cd. | 5,350 | 2910 pcs. | 1370 pcs. |
| Maple | 75 M. | 750 cd. | 3,800 | --- | --- |
| | 2232 M. | 3,070 cd. | 35,250 ties | 3,200 posts | 1370 poles |

Table 3. VALUES OF FOREST PRODUCTS FROM KENT COUNTY

| Species | Product | Ave. Dimen. | No. Units | Ave. Value | Est. Total value | Value by species. |
|---|---|---|---|---|---|---|
| W. Pine | Boxboard | round-edge | | | | |
| do. | Plank | 2"-8"x10" | 1237 M | $ 28 | $34,636.00 | $34,636.00 |
| Hard Pine | Box. | round-edge | 115 M | $226 | $ 2,990.00 | $ 2,990.00 |
| Oak | Plank | 2"-3"-4"x- | 460 M. | $ 90 | $42,300.00 | |
| do. | Cordwood | standard | 1,500 cd. | $ 7 | $10,500.00 | |
| do. | Ties | do. | 26100 ties | $ 1. | $26,100.00 | |
| do. | Posts | 6" top | 290 pos. | $ .30 | $ 87.00 | |
| | | | | | | $78,987.00 |
| Chestnut | Boxb. | round-edge | | | | |
| do. | Plank | 2"x--10' | 345 M. | $27.50 | $ 6,765.00 | |
| do. | Cordwood | Standard | 820 cd. | $ 6. | $ 4,470.00 | |
| do. | Ties | do. | 5350 ties | $ 1. | $ 5,350.00 | |
| do. | Posts | 6" top | 2910 pcs. | $.30 | $ 873.00 | |
| do. | Poles | 30' long | 1370 pcs. | $ 9. | $12,330.00 | |
| | | | | | | $29,788.00 |
| Maple | Plank | 2"x--10' | 75 M | est$-not given | $ 3,000.00 | |
| do. | Cordwood | Standard | 750 cd. | $ 7. | $ 5,250.00 | |
| do. | Ties | do. | 3800 ties | $ 1. | $ 3,800.00 | |
| | | | | | | $12,050.00 |
| | | | | | $158,451.00 | |

RED CURRANTS IN THE BERKSHIRES.

Is the cultivated red currant coming into prominence with the black currant in the matter of "catching" the contagious Cronartium ribicola? Judging from observations made in two towns in southern Berkshire County, Massachusetts, this red currant appears equally or more susceptible to the disease than at least one species of black currant, namely the flowering currant.

Observations made in 22 locations in the towns of Great Barrington and Egremont during August, 1925, are recorded in tables below. In Great Barrington 351 red currants were observed in 14 locations and 88.8% of these bushes were infected. On these infected bushes 63.3% of the leaves showed the disease. These figures for infected leaves are based on fairly close observation and on examination and count of a large number of leaves on each bush. In the town of Egremont which is west of Great Barrington, observations were made in seven locations where infection was found on 93% of the bushes and on 71% of the leaves. On all the red currants examined in the two towns practically 90% of the bushes themselves were infected and the disease was found on 65% of the leaves.

Contrasted with these figures is the record of twelve flowering currants in five separate locations. Five of these bushes or 41% had infections with 25% of the leaves carrying the disease. Four of these bushes were 100% infected, no leaf being found free from the disease. Four of the five locations correspond to the red currant location and in all cases the flowering currants were not more than 50 feet from the red currants and were growing under apparently identical conditions of exposure. In two locations flowering currants were free from the disease while the reds were heavily infected, 100% of the leaves being diseased in one case and 60% in the other.

In a third location 24 reds were all infected with disease on 90% of the leaves. In the same yard were six flowering currants only four of which were infected with 100% of the leaves diseased. In another location an equal number of reds were similarly infected while only one of three flowering bushes was infected with 25% of the leaves diseased.

Analysing the infection by locations it is found that out of 21 places where there were red currants, 20 or 95.2% of these locations had infected reds. By contrast five locations with flowering currants had only two or 40% with infection. According to these figures then, the red currants are leading the flowering currants by more than 2 to 1 in percentage of bushes and leaves infected and number of locations with diseased Ribes.

On the basis of the infection observed on cultivated red currants it would seem to be essential to stress the eradication of this species because it is evident that they can become severely infected and are always a source of danger. While no black currants, R. nigrum, were observed for comparison, the reds have so completely exceeded the flowering currant in developing infection in this locality that the situation seems to warrant the same serious concern as is given to R. nigrum. The red currants here in the Berkshires have certainly "caught" the disease and have come into prominence as "spreaders" of the rust.

The figures upon which this report is made are found in the accompanying table.

## TABLE SHOWING RECORD OF INFECTION ON CULTIVATED RED CURRANTS.

| Town | No. Bushes | No. Infected | % Bushes Infected | % of Leaves Infected. |
|---|---|---|---|---|
| Great Barrington | 24 | 24 | 100 | 50 |
| | 25 | 5 | 20 | 10 |
| | 124 | 124 | 100 | 60 |
| | 48 | 30 | 62 | 40 |
| No. of | 12 | 12 | 100 | 50 |
| locations | 12 | 12 | 100 | 50 |
| 14 | 12 | 12 | 100 | 70 |
| | 24 | 24 | 100 | 90 |
| | 24 | 24 | 100 | 90 |
| | 1 | 0 | 0 | 0 |
| | 24 | 24 | 100 | 75 |
| | 12 | 12 | 100 | 80 |
| | 6 | 6 | 100 | 80 |
| | 3 | 3 | 100 | 90 |
| Total | 351 | 312 | 88.8% | 63.3 |
| Egremont | 18 | 18 | 100 | 100 |
| | 12 | 12 | 100 | 60 |
| No. of | 6 | 6 | 100 | 100 |
| locations | 12 | 12 | 100 | 50 |
| 7 | 12 | 12 | 100 | 75 |
| | 24 | 18 | 75 | 50 |
| | 1 | 1 | 100 | 90 |
| Total | 85 | 79 | 93 | 71 |
| Grand Total | 436 | 391 | 89.7% | 65% |

### INFECTION OF FLOWERING CURRANTS.

| | | | | |
|---|---|---|---|---|
| Great Barrington | 1 | 0 | 0 | 0 |
| " " | 3 | 1 | 33 | 25 |
| " " | 6 | 4 | 67 | 100 |
| Egremont | 1 | 0 | 0 | 0 |
| " | 1 | 0 | 0 | 0 |
| Grand Total | 12 | 5 | 41% | 25% |

### TABLE SHOWING OCCURENCE OF INFECTION BY LOCATION OF RIBES.

| Species | No. Locations Observed | No. Locations Infected | % Locations Inf. |
|---|---|---|---|
| Cult. Red Cur. | 21 | 20 | 95.2% |
| Flowering Cur. | 5 | 2 | 40 % |

W.J. Endersbee.

## AN IDEA WORTH REMEMBERING ABOUT EXHIBITS.

The Fair season is past for the Blister Rust Control Agent but ideas worth remembering for another seasons use can be gleaned from a review of other exhibits seen this year. The Rhode Island State Board of Health used a miniature motion picture exhibit at several fairs in this state which never failed to draw the record crowd which marks the attractive and useful exhibit.

Daylight was no hindrance whatever. A very small projector using the narrow width film was set up to focus upon a screen 14" x 16" placed in a shadow upon the back wall of the booth. The novelty, color, and motion involved seemed a magnet to draw the crowd to that booth. The use of standard width film and the portable projector is equally feasible provided enough shadow can be found to focus upon.

O.C. Anderson, Rhode Island.

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## PEEL GOES TO AFRICA AS A RUBBER PATHOLOGIST

Mr. William Peel, Agent in Minnesota, is about to leave the work and take up plant pathology work for the Firestone Tire Company in Ohio, at Liberia, Africa. Mr. Peel graduated at the University of Minnesota and has been specializing in plant pathology under Dean E.M. Freeman. Good luck to you, Peel, in your new line-up! Anything you do to reduce the cost of tires will be appreciated by the agents in blister rust control.

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## COOPERATIVE BLISTER RUST CONTROL WORK IN THE NORTHEAST.

The early defoliation of Ribes closed the 1925 eradication season about two weeks ahead of normal. During August and September, blister rust exhibits were shown at practically every fair in the white pine section of the Northeast. On the whole, these exhibits were well arranged, and as a direct result many owners requested inspections of their pine stands. The success of an exhibit apparently depends on originality, color and action. The new blister rust circular arrived in time to be effectively used at several fairs.

Sometime ago, each state received several large cardboard signs for use at fairs and window exhibits and roadside demonstrations of blister rust damage. Some of the agents evidently do not appreciate the proper use of these signs and have tacked them up promiscuously along highways. Such use of these signs is objectionable, and should be discouraged.

Now is the time for each agent to prepare a definite working plan for his activities during the fall and winter months. During October and November, with the roads still in fair or good condition, interviews and personal demonstrations can be effectively conducted in the outlying sections which will be difficult to reach later in the year. From December 1st to January 15th, with the roads in poor or fair shape, interviews can be restricted to accessible places outside villages. General educational activities such as talks, motion pictures, exhibits, etc. can dove-tail with such work. During January 16th to March 15th (2 months) the service and educational work can best be limited to

villages, towns and accessible places. This period is also the time for office work such as news items, letters to prospects, preparation of maps of pine location and areas protected, getting records up to date, preparation of exhibit material, etc. During March 16th to April 30th, with roads again in fair condition, interviews and demonstrations can be extended to accessible places outside villages. This is also a good time for laying out damage plots, roadside demonstrations, and carrying out general educational work.

E.C. Filler.

Sept. 30, 1925.

BLISTER RUST IN PENNSYLVANIA.

Dr. W.A. McCubbin, Plant Pathologist of the State Department of Agriculture, reports that in a recent visit to Wayne County he found some evidence of further spread (of the blister rust) in the white pines, and the Department in cooperation with the Federal Government is now conducting a survey in the several northern counties to determine the amount of spread and to find out how plentiful are the cultivated currants and gooseberries as well as the wild varieties in woods and pastures.

In spite of the extensive pine killing that has taken place in other states from attacks of the blister rust, officials of the Pennsylvania Department of Agriculture do not hesitate to approve white pine planting so long as currants and gooseberries are not allowed to grow in the vicinity. Several pine owners in Wayne County have already started war on these alternate hosts to protect their pines.

Extract from Pennsylvania Grange News for Sept. 1925.

## FARM FORESTRY IN AGRICULTURAL EXTENSION WORK

In no subject relating to farming has there been greater advance during the last few years than in that of farm management. Practical farmers and investigators alike are learning to realize that the efficiency of different individual activities on the farm do not necessarily make a thoroughly successful farm business unless those activities are correlated and the business as a whole is conducted with a view to enabling the farmer to utilize his abilities to the best possible advantage and to produce the crops that will yield the largest returns considering the capital invested, amount and character of land, equipment, location as to market, etc.

No part of the farm enterprise has received in the past so little attention as the woodlot. The farmer, looking upon it very much as he would a wild berry patch, was satisfied if it supplied him with a small amount of wood and occasionally with material for fence posts and for other rough agricultural construction. The rapid depletion of our forests, however, and a careful study of the timber requirements on farms as well as in cities and towns has emphasized in no uncertain terms the fact that with our old method of "mining" forest lands and burning up a great deal that we do not otherwise waste, we are rapidly approaching a time when there will bd, even with the most economical use of lumber and forest products, a very pronounced timber famine. A better knowledge of methods of silviculture, applicable to farm woodlots as well as other forest tracts, has also emphasized the fact that no crop on the farm has been handled in such an inefficient way as the wood crop. These various changes in thought and outlook on our forest policies are bringing about a very healthful development of interest in better methods of handling woodlots on the farm.

The management of the farm woodlot differs somewhat from the management of larger forest areas. To begin with the farm wood crop is as much a problem in general farm management as is the orchard crop or the corn crop. Since the orchard, the corn, and the dairy must first of all be considered from the farm management standpoint, so likewise must the management of the woodlot be first considered from the standpoint of the entire farm enterprise.

Inasmuch as farm management, because of its vital relationship to agricultural development, has become one of the most important objectives in the agricultural extension work, it was more or less natural that those interested in the farm woodlot as a more productive enterprise should turn to the extension system for assistance in initiating a better program of woodlot management. Furthermore the extension services of the country have developed a basic organization that comes in intimate contact with the farmers all over the country and through which all efforts for farm betterment can be most readily articulated.

It was no doubt with these thoughts in mind that some four or five years ago foresters called upon the extension forces to consider ways and means of adding farm forestry to the subjects with which they dealt. This move eventually brought about a special conference between the northeastern extension workers and northeastern foresters at New Haven two years ago. At the present time excellent progress is being made at working out an agreement through which the technical information of train foresters in the state forestry departments and state colleges can, by cooperation with the extension forces, develop a program which will unquestionably do for the farm forest problem what the extension services have accomplished for other lines of farming.

We may confidently look forward therefore to a time when the farm woodlot, instead of being a neglected resource of the farm, shall become not only a source of fuel and fencing material but may also be developed so as to supply the bulk of other forest products to the farms and in part to the surrounding village communities. Since the farm requirements for lumber constitute a large part of the country's total requirements, the removal of the farms from the general lumber market will do much toward reducing the present heavy demand on the general forest areas and the consequent rapid depletion of the country's timber resources. This development carries with it other economic advantages, such as: a saving in unnecessary demands on our transportation systems, utilization of land now unproductive, better organization of farm labor and use of farm power, favorable effects on climatic and moisture conditions, more general distribution of wood-using industries that require reliable and continuous sources of supply, greater use of wood for fuel, saving our coal and oil resources, etc.

In all its aspects therefore the plan to give more attention to farm woodlots is a commendable proposition, and it is hoped that state and federal organizations most vitally concerned may speedily outline a workable agreement for carrying on the work and the state and federal resources can be drawn upon for the funds necessary to make the work effective as promptly as possible.

A.E. Stene

Rhode Island. 1924.

Edit: Since this was written, state and federal agencies have made rapid progress in cooperating in farm forestry extension. Data from the Forest Service secured October 15, 1925 shows that 21 states are employing extension foresters, and that an additional number have practically completed arrangements for the employment of men for similar positions.

## WHITE PINE BLISTER RUST SPREADS IN WEST

Blister Rust Makes First Appearance

in Oregon.

White pine blister rust was found recently in Oregon for the first time by L.N. Goodding and T.D. Mallery, of the Office of Blister Rust Control, Bureau of Plant Industry. The discovery was made at Pacific City, 80 miles south of the mouth of the Columbia River, in Tillamook County. A second infection was located at Knappa, Clatsop County.

Extract from article in the Official Record of the United States Department of Agriculture for Oct. 14, 1925, by S.B. Detwiller.

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## BLISTER RUST ON PRINCE EDWARD ISLAND.

Dr. J.F. Martin combined business with pleasure on his recent vacation trip to Prince Edward Island. Numerous specimens of Ribes were forwarded to the Washington Office from Tignish, Prince Edward Island, Canada, all infected with blister rust, including R. nigrum, R. glandulosum, R. lacustre, and R. hirtellum. No white pines were in the vicinity of these bushes.

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## CULTIVATED BLACK CURRANTS IN DULUTH

"It may interest you to know that we found 178 plantings (averaging 6 bushes to the planting) of black currants in Duluth; 54 of which were infected. It was by following the infected black currants that we were enabled to find infections on pines."

Wm. Peel

THE CONVERSION OF WILLIAMS

Williams owns a small farm of thirty acres on which there are fifteen acres of good pine about twenty years old. He makes no attempt at farming but sells and tunes pianos for a living. Early in July we scouted his property and found numerous gooseberries and infected pines. Shortly afterward I called and told him of the conditions as we had found them. He was urged to go out and see for himself but declined saying that he wasn't interested in the pine and did not want to do anything about protecting it from the disease. Finally he consented to destroy the gooseberries on a date to be determined later.

For a month following that interview I tried repeatedly to get in touch with him to set a date for doing the work but was unable to see him personally. Then I talked with Mrs. Williams who said they had reconsidered the matter and had decided to do nothing about the bushes. Time extended into another month and I reached Williams by phone one evening. He was too busy to spend much time but after further urging consented to spend half a day with the foreman on the following Saturday morning.

On the appointed day the foreman called for him at his house and after twenty minutes delay they began pulling bushes. Williams was not interested and only pulled two or three. Soon he left saying he had to return to the house and would return to work in fifteen minutes. A half hour later the foreman went looking for him. At the house he was telling some plumbers that blister rust was all bosh, that it was being greatly over-emphasized and he wasn't going to have anything to do with it. The foreman at length persuaded him to go back and in the course of their work they soon came upon numerous dead pines and others with ugly stem cankers. Williams was at

once alarmed at the situation before him. Evidently the pine was of greater value to him than he had previously admitted to us. Looking around for gooseberries he diligently set to work destroying them. During the rest of the forenoon he applied himself faithfully to the task but they were unable to finish, principally because he had stalled too long earlier in the morning.

At the house that noon he told his wife and the plumbers that he was all wrong in his statements made a few hours before. He told them of what he had seen and sent word by the foreman to have me call in the spring and arrange to finish the work. He also volunteered to destroy his cultivated currants and a flowering currant this fall. Williams was converted!

W.J. Endersbee.

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MR. DETWILER REPORTS ON HIS WESTERN TRIP

Mr. Detwiler returned on October first from a three months trip through the Lake States and the far western states. A news article about his trip appeared in The Official Record of Oct. 14, 1925, under the title of "White Pine Blister Rust Spreads in West - Makes its First Appearance in Oregon". During the latter part of October Mr. Detwiler, Dr. Metcalf and Mr. Filler are expecting to accompany Dr. J.S. Boyce to inspect blister rust conditions in New England and New York. Dr. Boyce has charge of the pathological work of the Office of Forest Pathology in District 6 of the Forest Service. He is returning from a trip to Europe where he has been making a study of the Douglas fir canker. Dr. Boyce's headquarters are at Portland, Oregon.

SCOUTING FOR BLISTER RUST IN NEW JERSEY

Mr. Allison H. Hearn has just completed his report on the summer scouting for blister rust in New Jersey. While the purpose of the summer's work was to locate the blister rust if it could be found in the state, it was also a matter of primary importance to locate cultivated black currants.

The white pine blister rust was found this summer in four different counties: Monmouth, Passaic, Warren and Sussex. The infections in Monmouth County are in the central portion of the state on the coast. There were 4 infections in, or near Red Bank, all within 4 or 5 miles of each other. Infections were as follows: At Red Bank at C.L. Olson's 6 infected Ribes nigrum out of 19 bushes. In Rumson Township infections were found on two adjoining estates - the Thos. Victor place, 18 R. nigrum - all infected; and at the Fritz Achelis place two bushes, one slightly infected.

In the northern part of the state, at Hewitt, Passaic County - 2 infected R. nigrum out of 10. At Marksboro, Warren County - 4 out of 12 R. nigrum were infected; in Sussex County near Fredon, one bush of R. nigrum was found slightly infected.

Summarizing the blister rust situation in the state Mr. Hearn writes:

"The blister rust in Monmouth County was probably introduced there on nursery stock. That near Grenwood Lake must have spread south from New York, It seems most likely that the infections at Marksboro and Fredon came down the Valley along Kittatiny Mountain from the direction of Columbia. Although no infection was found west of Marksboro this seems the most plausible explanation. The absence of blister rust in the pine section in the northwestern part of the State may be attributed to the lack of Ribes both wild and cultivated."

## BLISTER RUST GLEANINGS FROM NEW HAMPSHIRE

White Pine Blister Rust control, in cooperation with towns and cities is nearly completed for this season. Work has been carried on in 78 towns and cities and with 30 individual pine owners. Considerable eradication of currant and gooseberry bushes was also conducted upon state lands. A total of 266 men were employed during the season, although not all at one time.

Several towns whose pine areas had been completed a number of years ago voted funds for making a second examination. The results of this work were particularly gratifying as it developed that excellent eradication had been performed by the crews when the land was first covered.

Many new areas of pine infected with blister rust were located during the spring and summer months.

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Miss Katherine Lyons has been employed throughout the summer to assist in the office work of the blister rust force which reaches its peak during the summer and early fall.

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Foreman Joseph Cullen of the blister rust crew working in North Chichester and members of the crew recently helped to put out a fire which completely destroyed a house and barn in that town. In spite of the heat, residents and the blister rust men were able to save practically all of the household furniture.

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Mr. T.J. King, Blister Rust Control Agent for Merrimack County, is the proud father of a baby girl, Rita Anne, born September 17th.

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Word has been received of Mr. Stephen H. Boomer's engagement to Miss Jean H. Taylor of Newton Centre, Mass. Mr. Boomer is Carroll County Blister Rust Control Agent.

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Several forest management and blister rust demonstration meetings have been held this season which have been well attended.

Among the more prominent meetings were those held in Wentworth, Claremont, Sunapee, Lyndeboro, Goffstown, Deering, Lebanon and Temple, - this last having been an interstate meeting in which Massachusetts joined with New Hampshire.

Extract from N.H. Forestry Department News Letter. Vol. 2, No. 2. Oct. 1925.

"HUNCH"

One morning in early September driving from headquarters to the northern part of my County part of the route lay through the Town of Albany. As I Dodge along, I said, "How! Am I ever going to get cooperation from the Town of Albany; poor, thinly populated and very little interest shown in Blister Rust. Not even a Postoffice in the town.

Suddenly it came to my mind, last year at Fryeburg Fair a man came to the exhibit and was very much interested in Blister Rust, his name was Mr. A. G. Rich and he had a summer home in Albany. (This is a good bet, will call on him, will not do any harm.)

Drove into the yard, knocked at the door, the following conversation took place.

Blister Rust Agent: - "Good Morning, Mr. Rich."

Mr. Rich: - "Good Morning, Mr. Curtis, remember seeing you at Fryeburg Fair. Have a seat, try one of my cigars."

Agent: - Thought I would call and talk Blister Rust.

You know what it is and the danger from it, never could get this Town interested in fighting it."

Mr. Rich: - "What do the Selectmen think, - that the owners should do the work themselves?"

Agent: - "That is not a satisfactory way, the best work is done by cooperation of the following, U. S. Dept. of Agri., State Forest Service, Town and Pine owner".

Mr. Rich: - What would be the cost to the Town?"

Agent: - "About six hundred dollars, two hundred dollars per year for three years.

Mr. Rich: - "I will submit this to the Selectmen. If they will raise at the annual town meeting one hundred dollars each year, I will meet it dollar for dollar."

Agent: - That is very good cooperation."

Mr. Rich: - If they do not vote this amount, I will donate one hundred dollars per year to protect the pine of Albany from Blister Rust. You can bank on that if the town does not come across, but I think they will."

This turned out to be a very good "Hunch", and such a satisfactory morning for Blister Rust that I finished the trip hugging myself.

D. S. Curtis
North Bridgton, Maine

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## BLISTER RUST FOUND IN LAKE COUNTY, MINNESOTA, NORTHEAST OF DULUTH.

On Sept. 22, Mr. William Peel, Agent in Minnesota collected several specimens from white pine trees northeast of Duluth, showing unmistakable signs of the blister rust. Specimens upon examination in Washington, showed pycnial spots and scars as well as the orange-yellow discoloration on the bark. He reports that the collection was found five miles north of Two Harbors, in Lake County.

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## NEW HAMPSHIRE BELIEVES IN COOPERATION.

Mr. Newman writes that the Forestry Field Meeting and Blister Rust Demonstration at Temple, N.H. featured on the next page, is the third interstate project that New Hampshire has attempted; the Waterford meeting last year being the first, the exhibition with the state of Maine at the Rochester fair being the second, and this one the third. "We are going to try to get a Boston newspaper man to attend the meeting so that there will be a good account of it in some of the New England papers."

Inter-State

# F O R E S T R Y  F I E L D  M E E T I N G

and

# B L I S T E R  R U S T  D E M O N S T R A T I O N

---

TEMPLE, N.H.

WEDNESDAY, OCTOBER 7

2 P.M.

ON THE SHELDON LOT

Follow the Arrows from Temple Post Office

---

There Will Be Present:

Mr. H.O. Cook, Chief Forester of Mass.

Mr. J.H. Foster, State Forester of N.H.

Who Will Speak On

Subjects of Interest to Timberland Owners

A CONVINCING EXAMPLE OF THE SERIOUSNESS OF BLISTER RUST

WILL BE SEEN

---

Make This Meeting a Success By Bringing Your

Neighbors With You

REMEMBER THE DATE

---

Massachusetts
Department of Conservation
In Cooperation with
Massachusetts Department of Agriculture.

New Hampshire
Forestry Commission

Hillsboro County
Farm Bureau.

REPORT ON THE INTERSTATE FORESTRY FIELD MEETING

AT TEMPLE, N.H., OCTOBER 7.

We had a total of thirty persons present at the demonstration. A trail had previously been painted running through an infection starting in the Sheldon lot and ending up in the Blood lot. The entire length of this trail was about half a mile and certainly demonstrated very effectually the seriousness of blister rust. Talks were given on the life history of the rust and methods of control. Mr. H.O. Cook, State Forester of Massachusetts gave an excellent address on the "Value and Importance of Local Wood-Using Industries". Mr. Cook cited as two outstanding examples the region around Winchendon, Massachusetts and also one in Plymouth County, where the same concerns have been securing their supply of pine from a radius of eight or ten miles around their plants during the last 50 to 75 years.

Mr. J. H. Foster, of this state, followed Mr. Cook with a few remarks on New Hampshire conditions and also discussed at considerable length the new Walker Bill which provides for the classification of forest land so as to remove taxation on growing timber. I think one of the best phases of the meeting was the tendency on the part of so many people to ask questions. We announced at the beginning of the meeting that it was to be an informal affair and we hoped all would join in giving their views as well as in asking questions.

The day turned out to be a cold and blustering one, and I think this had considerable to do with the poor attendance. I am hoping that I shall be able to get some information from the other state leaders this fall at our annual meeting which will assist us in getting out bigger crowds at these field meetings.

L. E. Newman.

## A FORM LETTER TO STIMULATE CONTINUED INTEREST

Cooperators Who Have Finished
Their Work Get This Letter of Commendation.

Dear Mr._____

We are pleased to send you enclosed herewith, a record of the control work, which you as a cooperator with the State, have performed in protecting your white pines from blister rust. You are to be commended for the action you have taken in removing the currant and gooseberry bushes which spread this disease.

We suggest that from year to year you search your land for bushes that may possibly have been overlooked or that may have come up from seed since you first examined it. Our experience has shown that spring is a favorable time to locate these bushes since the foliage appears on them in advance of nearly all other vegetation. If you will consider these bushes as pests and endeavor to eradicate them from your land, in the same way you would keep the weeds out of your garden, you may be assured that your white pines will be permanently protected from the blister rust.

If there is any further service that this department can render you, please feel free to call on us at any time.

Very truly yours,

W. J. Endersbee
Blister Rust Control Agent
Berkshire County, Mass.

CARD TO ACCOMPANY FORM LETTER

ON PRECEDING PAGE.

RECORD OF COOPERATIVE BLISTER RUST CONTROL WORK -

MASSACHUSETTS

Property of ..John Adams.....Town of .Great Barrington.....Mass.

| Number of Wild Bushes | | Number of Cultivated Bushes | |
|---|---|---|---|
| Gooseberries | 3082 | Gooseberries | 3 |
| Red and Black Currants | 63 | Red and White Currants | 18 |
| Skunk Currants | 254 | Flower'g or Black Cur. | 1 |

Date work performed-September 20 to 24

Submitted - October 5, 1925. By W.J. Endersbee

SNAPPY LINES FROM NEW YORK STATE.

The New York Conservation Commission has recently put out a series of mimeographed sheets all referring to white pine and the blister rust which are very worth-while because of their brevity and conciseness. If you have not received a copy of these I would suggest your writing Mr. A. F. Amadon, in care of Conservation Commission, Albany, New York, for the set.

The first of the series - Ten Commandments for a White Pine Owner, by Agent Nichols of Essex County, appeared as a frontispiece in the New York Number - June 15. The other sheets in the series have the following titles:

A Dozen Facts.

Ten Reasons Why You Should Take Care of Your White Pine.

Do You Know This - That Timber Raising in New York Pays.

REPORT OF WORK OF WESTERN BRANCH,

Office of Blister Rust Control, Sept.1-30, 1925.

* * * * * *

1. Cultivated Black Currant Eradication.

Montana: Johnson reports the counties of Gallatin, Broadwater and Meagher as finished. Since the enactment of the new State Quarantine on cultivated black currants in Montana, Johnson has also been able to secure some further eradications in Missoula County. A total of 16 plantings, representing 240 bushes were eradicated in these 4 counties.

Johnson also had exhibits at the State Fair at Helena, Montana, September 7th to 10th and the western Montana fair at Missoula, September 29th to October 2d.

Idaho: Cultivated black currant eradication work was finished for the season in Idaho in September. Final records for this work have not yet been prepared at Moscow. They will be given in the next monthly report.

Washington: Cultivated black currant eradication work in Washington was finished for the season about the 15th of September when the men who were on this work were assigned to scouting for the disease in eastern Washington, 13 plantings of cultivated black currants, representing 105 bushes, were eradicated during the first part of the month.

California: Root reports work being done in Nevada, Plumas, Placer and Humboldt counties. 54 plantings, representing 326 bushes, were eradicated.

2. Scouting for the Disease.

Oregon: During the course of scouting for the disease in Oregon the rust was found at Pacific City, Wheeler and Knappa. Further extensive scouting was done in northwestern Oregon but no other infections were found.

Washington: Scouting in eastern Washington was done by two competent men with a machine who devoted approximately three weeks to scouting in Spokane, Pend Oreille, Stevens and Ferry counties. Native Ribes were inspected at 141 inspection points, these points being an average distance of 4-1/2 miles apart. No rust was found.

Scouting in western Washington is being done by two men with a machine and is still under way. The rust has been found on Ribes nigrum, R. bracteosum, and R. laxiflorum, at the Ilwaco Peninsula, Deep River and Naselle.

Idaho: Scouting was done in Boundary and Bonner counties by two men with a machine. Wild Ribes were inspected at 37 locations in these two counties. No rust was found.

British Columbia: The rust has been found this season on Ribes nigrum at Taghum, Willow Point, Harrop and Proctor, British Columbia.

3. Local Control.

Idaho: The local control season ended on September 11th, the camps being then dismantled for the season. During the first part of the month 587 acres were worked. The records of this work show the Ribes to have averaged 113.4 per acre.

Oregon: The season for Ribes eradication in Oregon was ended on September 12th. 344 acres of land were worked during the first part of the month. The records show an average of 30 Ribes per acre.

4. Reconnaissance.

Coeur d'Alene National Forest: During the first part of September two sections were worked by intensive reconnaissance and 168 sections were covered by extensive reconnaissance, securing information on timber types and general notes on Ribes.

Kaniksu National Forest: Before the end of the field season two sections were worked by intensive reconnaissance and 26 sections were worked by extensive reconnaissance.

5. Ecological Study.

The field season on the ecological study was finished at the time the Upper Priest River Ribes eradication work was ended. Field work during this period consisted of the final completion of the seasons records. The last half of the month was spent in compilation of these records in the office.

6. Chemical Eradication.

Field work on this project was ended on September 22d. During this period all the plots which had been laid out during the season were finally finished. The men also spent some time on the gathering of Ribes leaves of different species to be used in the determination of relation of leaf area to live stem by the ecological force.

7. Quarantine Inspection.

During the last week of September a training school for quarantine inspectors was carried on at Spokane. Most of the inspectors will report at their points about October 5th. The following assignments have been made:

| | |
|---|---|
| Portland - Patty | Pasco - Painter |
| Seattle - Brischle | Tacoma - Bartow |
| Spokane - Rockie & Strong | Pendleton - Benedict |

Stephen N. Wyckoff
Pathologist.

MOTION PICTURES AS A FAIR ATTRACTION

The role that motion pictures play in the life of the present day community is being gradually extended. They are no longer confined to the theatre or the amusement hall. They have entered the educational field and may be found in the classroom of the school and college, in the sumptuous lecture halls of the large cities, in the country school rooms or community halls of the sparsely settled regions.

Daylight motion pictures are relatively new in so far as being fair attractions. The California Department of Agriculture started this innovation at the State Fair in Sacramento this year. The purpose of the Department in showing these pictures was two-fold; first, as a drawing card to attract the people and second, as a purely educational feature. Films depicting the activities of the various bureaus of theDepartment were thrown on a screen 2 feet by 3 feet. A portable machine was used and the projection length was about 10 feet. The machine was placed back of the screen and the pictures thrown through it which was simply architect's tracing cloth stretched tightly over a frame. Although the pictures were small, they were clear-cut and could be seen a considerable distance. This was so in spite of the numerous lights nearby used to illuminate the exhibit. This machine was not visible to the audience, being behind the panels, used as part of the exhibit.

A study of the audience, both as to size and length of time which the individual spent before the screen, revealed quite plainly, the kind of motion pictures which hold the attention of a fluctuating or transient type of audience. It must be remembered that the spectators are constantly coming and going, that they are bent upon seeing no particular show or

exhibit and it is only by something unusual that their attention is arrested for more than a passing moment. Moving pictures do attract the attention, but if the scene is not interesting or unusually attractive, few people wait to see what may follow.

Ten reels of pictures showing the cooperative activities of the State and Government were thrown on the screen every afternoon and evening. Those showing the work of the Bureau of Animal Industry which included the hoof and mouth disease episode, stopped the greatest number of people and held them the longest. The real reason for this was, aside from the widespread publicity of the hoof and mouth disease, that each scene was a dramatic episode in itself, preceded by an interesting title. At no time could one stand before this picture and not know what it was about or what it meant to convey.

The Western Blister Rust film is an admirable one. It serves its purpose well at the theatre or in the lecture hall. It does fall short, however, of being suitable for a fair attraction. At a certain point, one has to wait more than half a reel to find out what the picture is about. Most Californians are "fed up" on scenic views. They have seen the real thing. What is needed is one reel, with short snappy scenes and titles bearing directly upon the work involved.

This article is not written to adversely criticise the film. It is written with the hope that a suitable film may sometime be made for showing at such places, and has feebly endeavored to offer a few suggestions. Truly, there are unlimited possibilities for motion pictures at agricultural fairs.

GEORGE A. ROOT,
Sacramento, Calif.

MORE TIMBER, SAYS JARDINE

Secretary Jardine of the Federal Department of Agriculture, spent some time recently up at Sayner, Vilas County, Wisconsin, and while not busy fishing in Plum and Lost Lakes, made some very pertinent remarks about our forest problems.

The Secretary said, "It is not more farms, but more forests the nation needs." He believes that both the state and national governments should be making forests in the Lake States, and that it is the biggest problem of the moment. "This work must be done not only in Wisconsin, but in other timber producing states," he says.

The Secretary said that forest fire prevention is possibly the greatest step towards reforestation, and that Wisconsin, a natural timber country, could with diligent care, again become one of the nation's greatest artificial reforestation areas. "But until the fire menace has been efficiently taken care of, one forest fire, burning perhaps for a day or two, will undo the work of artificial planting which requires years."

Extract from The Wisconsin Agriculturist Vol. 49, No. 39, Sept. 26, 1925. Page 12.

Note: The Office of Blister Rust Control has been carrying on work in Wisconsin for ten years and its work of protecting the pine forests of the state from the rust is part and parcel of the Secretary's larger program "More Timber".

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Agent Holden has assumed the duties of state leader in Vermont in addition to his work as agent in the southern part of the state. Mail will reach Mr. Holden in care of the Forest Service, at Montpelier, Vermont, or at his district headquarters.

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## WHITE PINE REPRODUCTION IN WISCONSIN

It is a well known fact that white pine reproduction is unsatisfactory in Wisconsin over vast areas where large trees of this species were once abundant. Quite naturally, people interested in timber ask the question, "Why does white pine fail to come back as readily in Wisconsin as it does in the New England States?" The writer will try to give some of the reasons:

With comparatively few exceptions, native white pine stands were mixed with hardwoods. In logging operations the white pine was usually cut first while the hardwood was allowed to stand for many years before it was cut. The seeds of the white pine probably germinated, but the seedlings were too densely shaded to survive on account of the luxuriant growth of hardwood species. Root competition was also a factor on the better types of soil.

Some years after the white pine was harvested, loggers cut the Norway pine, hemlock, spruce and hardwood. Over vast areas fires burned the slashing, and most of the young white pines which happened to survive were destroyed, and only exceptional clumps and scattered pines escaped. Most of the remaining pines were eagerly sought by the farmers because of the ease with which they could be converted into building timber or sold to dealers. There are large areas in Wisconsin where pine stump fences, as reminders, are common; while in the same district there is scarcely a living white pine in sight.

On clay soil the white pine has a poor chance to establish itself because of the rank growth of hardwood trees and herbaceous

vegetation which smothers the white pine seedlings. On sandy loam the conditions are much better because the growth of hardwoods and various other kinds of vegetation is comparatively sparse. Where dead pine leaves on the ground are not so abundant that a thick mat is produced, pine seedlings are often abundant. At present nearly all of the white pine woodlots are found in the sandy loam or sandy regions. There are however, large areas which are too sandy for the growth of white pine.

Another serious handicap to white pine reproduction is excessive grazing. The casual observer does not realize the damage done by livestock in the farm woodlot. In Wisconsin cows have probably done as much in the operations of the land clearing as the farmers. White pines suffer more from livestock injuries than most other kinds of forest trees.

Apparently many people believe that climatic conditions in Wisconsin are unfavorable to reproduction of the white pine. The writer, however, does not consider this opinion well founded. There are small areas in practically all parts of the northern half of the state where very dense stands of white pine occur on sandy loam. There is probably no section in the state where climatic conditions are unfavorable to the reproduction of white pine, provided the soil is suitable.

H. J. Ninman.

Note: The above was referred to Mr. Rafael Zon, Director of the Lake States Forest Experiment Station at St. Paul, for his criticism. Mr. Zon's comment is as follows: "I think Ninman's analysis is pretty good. An additional reason (why white pine reproduction is unsatisfactory) is that the region is new and not so many pastures are abandoned here as in New England. Second growth white pine in New England in a large measure is on abandoned farm land. There is however, an increasing area of second growth white pine here. This grows fully as well, if not better, than in New England." R.Z.

MARYLAND NOW LEADS THE RECORD FOR TALLEST EASTERN WHITE PINE!

The contest for the largest white pine is bringing interesting results.

In the April number of the Blister Rust News, Agent Boomer noted a white pine 150 feet high, and 18 feet in circumference, at Ossipee, N.H.

In the September number is a note from J.R. Simmons' "Historic Trees of Massachusetts", telling of the Oliver Wendell Holmes Pine which is of great interest because of its great size and because of its associations with the famous poet, although it does not measure up to the New Hampshire tree noted above.

Now we have information about the tallest tree in Maryland and possibly in the East, according to Maryland State forestry officials. This is the Garrett County white pine which was entered in the Maryland Tree Contest. It is 158 feet tall and 11 ft. 5 in. in circ. at br. ht. It is called the "Lucky Pine" because it has been spared in many logging and timber-cutting operations. This pine stands on the bank of the Savage River, seven miles west of Lonaconing, and is the property of James Merrill.

Note: These big pines, the heritage of past generations, perhaps of past centuries, should be protected from white pine blister rust so that they may continue to be an inspiration to our childrens' children.

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A local forestry meeting was held late in the summer, on the Keene Forest in New Hampshire, under the direction of Professor Toumey and County Blister Rust Agent, Baker.

## REFORESTING SETS NEW RECORD IN NEW YORK STATE

Figures compiled by the Conservation Commission at the close of the spring planting season show that a new high record in reforesting was made when 10,971,350 young forest trees were set out in New York State. ---

How much the movement to make profitable use of idle land by planting trees on it has come to mean to the owners of such land is shown by the fact that farmers and private landowners constitute the largest group that is participating in the reforesting movement. They planted this spring more than 4,000,000 young trees.

Extract from The Seed Tree, Pub. by N. Y. Forestry Association, Albany, N. Y. Vol. 3, No. 1. July 1925.

Note - Since about 41% of the stock distributed is white pine, according to data from the Conservation Commission, this would indicate that approximately 4,500,000 white pines were set out in the spring of 1925.

This data taken together with the fact that the blister rust has been known in New York since 1906, and that general publicity has been given the effects of the disease, shows that the public at large believes in the efficacy of blister rust control.

The recipient of the trees from the Conservation Commission guarantees to destroy the Ribes bushes in and around the planting site.

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## PERSONALS

George F. Richardson, Jr. of Southern Grafton County, New Hampshire, writes in a recent letter that he had a 25 foot exhibit at the Twin State Fair and a similar exhibit at the Plymouth Fair. "There seemed to be a large number interested, but more at Plymouth than at the Twin State Fair as it rained most of the time at the latter fair."

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Mr. J.E. Riley, State Leader in Connecticut, is in Washington for two weeks working up data on experimental control work performed by him in Canaan, Connecticut, during the summer.

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Mr. A.H. Hearn, Agent in New Jersey completed his work of scouting for the blister rust on Saturday, Sept. 19, and submitted a good report on his work. He has returned to North Hudson, New York, to assist Mr. Fivaz.

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Mr. Ernest D. Clark was appointed Sept. 5, 1925 as Agent. He will take over the work of Mr. A.D. McDonnell.

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Mr. A.J. Lambert resigned September 30, as Agent.

Mr. F.J. Gibbs, Agent in Michigan, resigned Sept. 23.

Mr. Ronald B. Craig was appointed as Agent at Springfield, Massachusetts, effective September 15.

Mr. T.L. Corbett and R.S. Caruthers resigned as Field Assistants, during September. Mr. Caruthers has now been appointed as Collaborator.

Mr. R.A. Sheals is now working on quarantine inspection (effective September 28.)

Mr. Frank A. Patty was appointed Junior Pathologist at Spokane, Washington, effective October 10.

Most of the temporary Agents and Field Assistants have completed their summer work and have resigned, to resume their studies in the various colleges or to take up other business pursuits.

FORMER BLISTER RUST CONTROL AGENTS IN THE EAST WHO ARE NOW ACTIVELY ENGAGED IN OTHER FORESTRY OR AGRICULTURAL POSITIONS.

Myron E. Watson . . . . . Forestry Extension Specialist, Maine.

Floyd M. Callward . . . . . Forestry Extension Specialist, Vermont.

Sherburne H. Fogg . . . . . County Agricultural Agent - Warren Co., N. Y.

Harold E. Round . . . . . Forester, Pennsylvania Railroad.

Sharon V. Holden . . . . . State Blister Rust Leader, Vermont.

R. Milton Hick . . . . . District Forester, Massachusetts Forestry Dept.

Alfred D. McDonnell . . . . Experimental work, Conn. Agricultural Experiment Station.

John E. Keib . . . . . Forester, Northern New York Utility Corporation.

Allen M. Tucker . . . . . Forester, Tenny Power Company.

Fred F. Franklin. . . . . Wood Preservation Work. Pennsylvania Railroad.

Wallace D. Black . . . . . Junior Forester, White Mountain National Forest.

Percy Merrill . . . . . Assistant Forester, Vermont Forest Service.
Parker O. Anderson. . . . . Extension Forester, Minnesota.

E.C. Filler 9/30/25.

Note: There are undoubtedly other former Agents than those above listed, who are now engaged in other forestry work.

## QUARANTINES

The state of Montana over the signature of the Governor, the Hon. J.E. Erickson, on August 6, 1925 issued a proclamation that the cultivated black currant (Ribes nigrum) and its varieties is declared a public nuisance in the state of Montana. The following is an extract from the proclamation.

"The destruction of these plants is hereby ordered in this State, and it shall be unlawful for any person to possess, propagate, sell or offer for sale these plants in the State of Montana.

In addition, I do hereby declare and proclaim a quarantine prohibiting the shipment or movement of any cultivated black currant plants (Ribes nigrum and its varieties) into or within the State of Montana.

All horticultural inspectors are hereby ordered and instructed to intercept, condemn, destroy or return to the shipper any movement or shipment of cultivated black currants into or within the State of Montana, and to condemn and destroy any black currants found growing in the State of Montana."

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Messrs. Craig, Hodgkins, Ninman and Sheals are now engaged in quarantine inspection work at various points in the Middle West. Reports received recently from them state that shipment of nursery stock has been rather light.

# PUBLICATIONS

## Blister Rust

Anon. Ribes Hunters End Active Campaign.
Over 250,000 wild gooseberries and currants.
This Summer 25 men at Blister Rust Control Camp.
The Hartford Daily Courant Monday, Sept. 21, 1925.
A good column long story was written of the eradication work at Canaan, Conn.

White Pine Blister Rust is Invading Pennsylvania.
Pennsylvania Grange News, Vol. 22, No. 6. P. 2
Sept. 1925 (Chambersburg, Pa.)

White Pine Blister Rust Spreads in West.
Makes First Appearance in Oregon - Good Progress Made in Work of Control. - The Official Record of the United States Department of Agriculture Oct. 14, 1925.

Root, George A. - Sugar Pine and the White Pine Blister Rust.
The Pacific Rural Press, Vol. 110, No. 4, July 25, 1925 p. 79. This is a full page article and is illustrated by a map showing the increase in blister rust in Washington and British Columbia from 1921 to 1923.

## Nursery Shipments

Thompson, Maude A. - Laws and Regulations Concerning Quarantine Regulations. Table I Revised. General Requirements for Interstate Trade in Nursery Stock. Laws and Regulations in Effect on August 1, 1925. Printed copies can be obtained from Office of Blister Rust Control.

Quarantines Against the Movement of Nursery Stock from _____ to Other States. Table II Revised. A separate table is made for each state. Mimeographed. Office of Blister Rust Control, Aug. 1, 1925.

## Eastern White Pine

Cline, A. C. and C. R. Lockard. Mixed White Pine and Hard Woods. Harvard Forest Bulletin No. 8, 67 pages. 1925.

## Western White Pine

Larsen, J. A. - Products of Immature (Western) White Pine Stands in Idaho. The Idaho Forester Vol. 7, p. 15,16,45, 1925.

Watson, C.W. - Young Stands of Western White Pine - Progress Report. The Idaho Forester Vol. 7, p. 21-23, 1925.

PARTIAL LIST OF RHODE ISLAND PUBLICATIONS.

Detwiler, S.B. - Blister Rust "Summary by States and Regions" Bul. 4, Amer. Plant Pest Committee 1919. Three paragraphs on situation in Rhode Island, p. 7,8.

Status of White Pine Blister Rust Control in 1918. Bul. 2, Amer. Plant Pest Committee. Seven paragraphs on Rhode Island - p. 6.

Dunn, John J. - White Pine Blister Rust - 31st Ann. Rep. R.I. St. Bd. of Agr. for Year 1916. p.10, 11. Jan. 1917.

Nursery and Orchard Inspection. Ann. Rept., State Board Agr. R.I. v. 32, p. 11, 1918. Plants were found to be infected with diseases as follows: Apple canker, Cedar apples, Peach yellows, Rose tar blight, Poplar canker, Ash rust, Potato blight, apple pink spot, Peach blight, Rose mildew, Cherry rot and White Pine blister rust.

White Pine Blister Rust 35th Annual Report of State Board of Agriculture for 1920 P. 8-9, January 1921.

White Pine Blister Rust. 36th Annual Report of State Board of Agriculture for year 1921 P. 7, January 1922.

White Pine Blister Rust. 37th Annual Report of State Board of Agriculture for year 1922. P. 45, January 1923.

Martin, J.F., Stene, A.E., and Sheals, R.A. How to Distinguish and Combat the White Pine Blister Rust. Bul. Entom. Dept. Rhode Island State Bd. Agr. N.S., No. 1, p. 38 illus. Feb. 1920.

Mowry, J.B. - Public Asked to Act at Once to Save White Pines. (Exact copy of letter sent out by Interstate Committee for Eradication of White Pine Blister Rust* Unnumbered circular letter 1917.

Mowry, Jesse B. - The Pine Blister. In Eleventh Ann. Rpt. Comm. Forestry (R.I.) p. 6-8, 1917.

Fourteenth Annual Report of Rhode Island Commissioner of Forestry, January 1920 - p. 4-7-9.

Pillsbury, J.J. - White Pine Blister Rust.
R.I. State Bd. Agr. Ento. Dept. Circ. 1, p. 1-4, Jan. 1917.

Sheals, R.A. - Rhode Island Should Protect Its White Pine.
In Providence Magazine, Vol. 30, No. 3, p. 134-5, 138. March 1918

White Pine Blister Rust Control Work in Rhode Island
In the Empire Forester Vol. 5, No. 1, p. 28-30. 1919.

Report on the White Pine Blister Rust in Rhode Island for the Calendar Year, 1919, in Cooperation with the Bureau of Plant Industry, U.S. Dept. of Agric.

Forest Enemies. Rhode Island Arbor Day. p. 15, May 13, 1921.

White Pine Blister Rust In 35th Annual Report of State Board of Agriculture for 1920. P. 30, January 1921.

White Pine Blister Rust. In 36th Annual Report of State Board of Agriculture for Year 1921. P. 7, January 1922.

Stene, A.E. - White Pine Blister Rust. In 35th Annual Report of State Board of Agriculture for 1920. P. 19-20 January 1921.

White Pine Blister Rust. In 36th Annual Report of State Board of Agriculture for Year 1921. P. 15-16, January 1922.

York, H.H. - Forestation in Rhode Island. The White Pine Blister Rust. In Providence Journal, Feb. 24, 1917.

# BLISTER RUST NEWS



U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

## C O N T E N T S - V o l. 9, No. 11.

UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Plant Industry
Washington, D.C.

THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 9, No. 11. STATISTICAL NUMBER Nov. 15, 1925.

## YOUNG PINES DYING LIKE FLIES.

"I have just returned from a trip in New England and New York with Doctors Metcalf and Boyce. They were much impressed with Waterford. On my part, I am most impressed with conditions in Keene Valley and near Darrowsville, Peru and generally through the white pine region. In lower Keene Valley we did not find any rust to speak of in 1917. It is just working in now and the principal visible effect is the killing of myriads of 2 to 5 year white pines. They die like flies, but on the larger trees there is little infection visible without close inspection.

At Darrowsville there is a cut-over pine lot of 10 to 20 acres, with splendid reproduction 1 to 8 years old, and scattering Ribes. The killing is more impressive to me than at Daisy Lake, British Columbia, because about 1/4 of the stand is dead or soon will be, and it is the kind of a stand the forester aims to get after logging - not pasture pine, but the real thing. At Peru are areas of good pasture pine in the usual condition from well established infection. It was depressing to look at them. The striking thing is that 1 to 5 year pines are almost entirely absent, - just as at Waterford, where the disease started still earlier, the 5 to 15 year class is practically absent as well as the 1 to 5 year olds."

Extract from recent letter by S.B. Detwiler.

PRELIMINARY NORMAL YIELD TABLE FOR

WESTERN WHITE PINE.

It will be of interest to those of us working with eastern white pine to learn something of western white pine. Accordingly the following letter from Assistant District Forester Elers Koch has been given prominence.

I would suggest your comparing the yields of western white pine as given in the preliminary table following, with the yields of eastern white pine as published in Department of Agriculture Bulletin 13 by E.H. Frothingham, entitled "White Pine Under Forest Management".

March 31, 1925.

Mr. C.R. Stillinger,
Associate Pathologist,
618 Realty Bldg.,
Spokane, Washington.

Dear Mr. Stillinger:

Reference is made to your letter of March 28 to Mr. Cunningham.

I am sending you a copy of a preliminary normal yield table for western white pine. It should be understood that these are only preliminary figures based on an inadequate number of plots, and that these tables should not be given too much weight. The field work on white pine will be continued this year, and probable more complete tables will be issued next winter.

I am afraid I cannot give you very much help on your question as to how many white pine trees per acre in the younger age classes will be required to make up a stand containing 15 per cent or more of white pine at maturity. We have not made any attempt to make a hard and fast definition of what constitutes the white pine type, and doubtless there has been some variation in interpretation of the classification by different men in the field. The following definitions of the principal types occurring in Dis-

trict 1 are taken from the 1917 edition of "Instructions for Making Timber Surveys in the National Forests." These instructions are now being modified, however, and new definitions will be out in the next edition of the manual, which should appear sometime this year:

Yellow Pine: A stand containing approximately 50 per cent or more of western yellow pine, except where sugar pine is the key tree. Usually on dry well-drained sites at the lower altitudinal limit of timberland or exposed south and south-west slopes, at higher altitudes.

The principal species in mixture are Douglas Fir, western larch, and lodgepole pine.

Western white pine: A stand in which western white pine is the key tree, forming approximately 15 per cent or more of the stand. In the northern part of the range of this type, at medium elevations, hemlock is the predominant tree, frequently outnumbering the white pine even in young stands; at higher elevations in the same region Engelmann spruce and alpine fir are the chief associates. In the middle of its range white pine occurs nearly pure or with Douglas fir as its chief associate, and with hemlock, white fir, larch, and sometimes lodgepole pine in mixture. In the southern part of the range of this type white pine is less important numerically than farther north. Here in young stands white pine occasionally forms as much as 50 per cent of the stand or more, but usually the predominant trees of the type are white fir and cedar, with Douglas fir and larch in mixture, a little yellow pine on the drier knolls, and sometimes in young stands lodgepole pine.

Lodgepole Pine: A stand containing approximately 50 per cent or more of lodgepole pine, usually nearly pure, but sometimes in mixture with other species.

The principal species in mixture are Douglas fir, Engelmann spruce, alpine fir, and western larch.

Douglas Fir: A stand containing approximately 60 per cent or more of Douglas fir.

The principal species in mixture are yellow pine, lodgepole pine, and western larch. Usually at the lower or medium altitudes, either at the lower limit of timberland or just above the yellow-pine type. Occurs also on north slopes above the white pine type.

Cedar-White Fir: A stand composed of cedar and white or grand fir, the former nearly pure in patches; the latter predominant throughout, with a considerable amount of Douglas fir, some yellow pine in groups on the knolls and as scattered individuals throughout, and rare western white pine individuals. The type occurs on the Selway National Forest and the southern portion of the Clearwater National Forest south of the commercial range of white pine.

Cedar-Hemlock-White Fir: A stand composed of cedar, hemlock, and white or grand fir in varying proportions, with a little white pine, also Engelmann spruce, alpine fir, and rarely Douglas fir. Areas which under management could be made to produce white pine in commercial quantities.

Larch-Douglas Fir: A stand containing approximately 60 per cent or more of western larch and Douglas fir with white or grand fir in mixture. Larch is the key tree. The proportion of larch varies greatly, from very little to practically pure.

The principal species in mixture is yellow pine, occasionally with lodgepole pine, western white pine, Lowland fir, western red cedar, or western hemlock. Usually at medium elevations, about the same as Douglas fir, but on more favorable sites. On less favorable sites than white pine.

Engelmann Spruce: A stand containing approximately 50 per cent or more of Engelmann spruce. Sometimes follows a temporary type of aspen.

Engelmann spruce may be pure, but is more often in mixture with alpine fir, lodgepole pine, limber pine, and Douglas fir. Usually at the higher elevations and on the moisture sites.

Mountain Hemlock: A stand containing approximately 50 per cent or more of mountain hemlock (*T. mertensiana*). Other species common in the mixture are alpine fir, silver fir, Shasta fir, alpine larch (*L. lyalli*), white-bark pine, lodgepole pine, western white pine, and Engelmann spruce. At the higher elevations usually near the upper limit of tree growth. Areas of mountain hemlock not capable of producing merchantable stands should be included in the subalpine type.

The principal species in mixture are alpine fir, Engelmann spruce, and western white pine.

Subalpine: A stand containing a varying mixture of subalpine species, no one of which is abundant enough to throw the stand into any of the types already described, or rarely pure stands. At the upper limit of tree growth, usually unmerchantable because of poor form and small size, and of value for protective purposes only.

The principal species are alpine fir, Engelmann spruce, lodgepole pine, whitebark pine, limberpine, mountain hemlock, and alpine larch.

Elers Koch,
Assistant District Forester.

TABLE #1
Preliminary Normal Yield Table, Western White Pine
Site 1

(Larsen and Haig, 1924)

| Age | Height Average Dominants in Ft. | Basal Area per Acre Sq. Ft. | No. of Trees Per Acre* | Volume per Acre Cubic Feet | Volume per Acre Board Feet ** |
|---|---|---|---|---|---|
| 10 | 22 | 45 | | 500 | |
| 20 | 42 | 85 | | 1,200 | |
| 30 | 61 | 120 | | 2,100 | |
| 40 | 79 | 151 | 620 | 3,300 | 4,750 |
| 50 | 94 | 177 | 490 | 4,700 | 12,900 |
| 60 | 107 | 198 | 385 | 6,200 | 22,800 |
| 70 | 119 | 216 | 305 | 7,800 | 31,800 |
| 80 | 129 | 231 | 245 | 9,200 | 41,100 |
| 90 | 137 | 244 | 195 | 10,525 | 50,000 |
| 100 | 144 | 252 | 165 | 11,625 | 54,000 |
| 110 | 150 | 259 | 140 | 12,350 | 58,000 |
| 120 | 154 | 265 | 125 | 12,850 | 68,400 |
| 130 | 158 | 269 | 120 | 13,250 | 72,250 |
| 140 | 160 | 272 | 115 | 13,550 | 75,200 |
| 150 | 163 | 274 | 115 | 13,725 | 77,500 |
| 160 | 165 | 276 | 115 | 13,850 | 79,300 |

TABLE #2
Preliminary Normal Yield Table, Western White Pine
Site II

| | | | | | |
|---|---|---|---|---|---|
| 10 | 18 | 41 | | 325 | |
| 20 | 34 | 75 | | 870 | |
| 30 | 50 | 106 | | 1,650 | |
| 40 | 65 | 132 | 865 | 2,725 | 4,000 |
| 50 | 77 | 155 | 715 | 4,025 | 9,100 |
| 60 | 89 | 176 | 575 | 5,350 | 15,300 |
| 70 | 99 | 192 | 470 | 6,525 | 22,100 |
| 80 | 109 | 204 | 390 | 7,500 | 30,000 |
| 90 | 116 | 215 | 325 | 8,300 | 36,900 |
| 100 | 122 | 224 | 280 | 9,000 | 42,300 |
| 110 | 128 | 230 | 245 | 9,500 | 46,500 |
| 120 | 133 | 234 | 220 | 9,900 | 49,500 |
| 130 | 136 | 238 | 205 | 10,150 | 52,000 |
| 140 | 140 | 241 | 195 | 10,360 | 54,100 |
| 150 | 142 | 244 | 190 | 10,525 | 55,800 |
| 160 | 145 | 246 | 190 | 10,650 | 56,800 |

*Includes trees 2" dbh and up for stands up to 40 years
" " 4" " " " " " 41 to 80 years.
" " 6" " " " " " 81 years and up.
**By Scribner Decimal C. Rule for trees 10" dbh and up.
These same footnotes apply to the tables for Sites II and III

TABLE #3

Preliminary Normal Yield Table

Western White Pine

Sit III

(Larsen & Haig, 1924)

| Age | Height Average Dominants in Ft. | Basal Area per Acre Sq.Ft. | No. Trees per Acre | Volume per Acre Cubic Feet | Volume per Acre Board Feet |
|---|---|---|---|---|---|
| 10 | 14 | 34 | | 150 | |
| 20 | 27 | 65 | | 560 | |
| 30 | 40 | 91 | | 1,260 | |
| 40 | 52 | 116 | 1,100 | 2,150 | 3,250 |
| 50 | 62 | 137 | 935 | 3,350 | 5,300 |
| 60 | 71 | 154 | 760 | 4,460 | 8,500 |
| 70 | 79 | 167 | 620 | 5,250 | 13,500 |
| 80 | 87 | 177 | 525 | 5,800 | 19,500 |
| 90 | 94 | 186 | 450 | 6,150 | 23,200 |
| 100 | 100 | 193 | 390 | 6,450 | 26,500 |
| 110 | 106 | 199 | 345 | 6,690 | 28,700 |
| 120 | 111 | 203 | 310 | 6,850 | 30,500 |
| 130 | 115 | 206 | 290 | 7,050 | 32,000 |
| 140 | 119 | 210 | 275 | 7,240 | 33,000 |
| 150 | 122 | 211 | 265 | 7,300 | 33,600 |
| 160 | 125 | 213 | 260 | 7,400 | 34,000 |

SHORT NOTES FROM RHODE ISLAND.

Mr. R.A. Sheals, Assistant Entomologist and Collaborator of the United States Department of Agriculture in Blister Rust Work in this State, has returned from a trip through the Middle West on Quarantine Inspection work and has resumed his duties here.

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Mr. Clarence S. Carr who has been employed as a scout on Blister Rust work for a number of years has been re-employed by the State Board of Agriculture on Gypsy Moth Control for the winter months.

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The U.S. Department of Agriculture Motion Pictures were shown in several villages November 2 to 7 for the first time in Rhode Island where electric light current is not available. In cooperation with the Extension Service and Mr. D.B. Strout a storage battery system for the projector lighting was developed. These films were given an enthusiastic reception and it is hoped that many more similar exhibits can be arranged in the future.

O.C. Anderson.

RIBES CAN BE COMPLETELY ERADICATED

Yesterday I got an interesting story from Scout Stillman Jones regarding some gooseberry eradication which was done in Berwick (York County Maine) in 1923.

At that time Scout Ralph Hasty had covered the extensive holdings of Mr. George Hall and found gooseberry bushes in large numbers on several lots. The owner, being an elderly man, was unable to personally attend to the eradication work. He asked a neighbor to look the lots over and set a price for which he would eradicate the bushes with the help of one man paid by the town. The neighbor set his price and it was accepted by Mr. Hall. The work was then done. My records show that 8500 Ribes were destroyed.

A few days ago Mr. Hall came to Scout Jones whose home is in Berwick, and asked him to accompany him on a visit to several pine lots. The lots which Mr. Hall wishes to visit were the ones which had been eradicated during the summer of 1923.

Mr. Hall and the scout gave these lots a thorough examination, and Jones is responsible for the statement that he could not find a single Ribes bush in wet runs or anywhere else on these lands, where formerly he personally knew them to be very plentiful.

The moral of this little incident is that if the owners will put real effort into their eradication work, and give the work an honest trial, the bushes can be thoroughly removed.

Errol E. Tarbox

Agent, York County, Maine.

## A NOTE ON RIBES IN VIRGINIA

"I enclose specimens of Ribes collected on slopes of Cold Mountain about 15 miles northeast of Buena Vista, Va. This land is owned mostly by the Forest Service, being part of the Nattral Bridge Forest. The Ribes in places are very thick, making up approximately 90 per cent of the ground cover in some areas as large as half an acre. In most places the Ribes occur simply as a scattering bush here and there, located mostly around rock out-crops or at the base of rocky slopes. In the particular area on the southern slope of this mountain where the Ribes are so abundant, chestnut makes up a very large per cent of the stand.

White pine is not so prevalent in the area where I noticed the most abundant Ribes, but on the west slopes of Cold Mountain there is quite an abundant reproduction of white pine. As chestnut is the chief component of the forest and it is now being attacked by the blight, it is probable that the per cent of white pine will rapidly increase. This is by far the most abundant stand of Ribes that I have noted in the Southern Appalachians. In most cases the Ribes are very few in number and more or less confined to rocky places." Extract from letter of Nov. 7, 1925, by G.F. Gravatt.

Note: The specimens have been identified as Ribes hirtellum (Michx.)

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## BLISTER RUST FOUND AT THE ARNOLD ARBORETUM.

"In company with Mr. Posey, I found Ribes nigrum apiifolium (garden origin) infected with blister rust at Arnold Arboretum, August 27, 1925. Apparently this was the only bush diseased. It was the first time infection was found here.

E.C. Filler.

NEW INFECTION CENTER DISCOVERED AT SHELBURNE, MASS.

A small 1911 - 1912 infection area has just been located in Shelburne, Massachusetts. As far as I know it is the oldest infection in the district and has caused quite some trouble to locate it. I believe some of the trees would show up well in pictures.

G. Stanley Doore
Greenfield, Mass.

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SHOWING LANTERN SLIDES IN THE DAYTIME.

The daylight projector with the translucent screen has proved very satisfactory, and for small group meetings where space is limited I have found it entirely satisfactory either for daylight work or work in the evening. By simply pulling down the window shades of an ordinary room the picture comes out very clearly on the screen. The screen we have is only about 28 x 32 and is a little small for large audiences. But I believe one 36 x 45 would be satisfactory for fairly large audiences. For the agent's general work or at town meetings where there is a medium-sized crowd I believe it would be very satisfactory.

The only difficulty I have experienced at all from the machine is in transporting it from place to place. It is rather heavy but if one has a car it can be transported around to meetings without much difficulty. The lantern itself cannot be checked, it must be carried by hand on the train and consequently is considerable of a load. I find it very satisfactory for giving talks on blister rust, because the lecturer can operate the machine and at the same time give his discussion. Since he is close to the screen in the rear, by means of a small pointer he can call attention to the different phases of the picture and still remain by the side of the machine.

C.R. Stillinger.

## A NEW SPOT INFECTION IN RHODE ISLAND

A spot infection was found by Mr. O.C. Anderson on the property of C.O. Remington in the town of Glocester, Providence County, June 9, 1925. A quarter acre plot was laid off later in the season by Messrs. Hodgkins and Anderson about the infection point and all pines on the plot examined, with the result that 23.2% were found infected with blister rust. The oldest infection recorded was of 1919 origin.

It appears that the infection originated in this locality on a few large escaped gooseberry bushes (Ribes grossularia L.) growing about the cellar hole on an abandoned farm and then spread to native old field-type pine adjacent. Then the disease communicated itself to wild gooseberry bushes (Ribes cynosbati L.) in a swamp across the road which became the center of infection for the native young pine on that side of the road. The infected young pines which averaged nine years of age have been destroyed after use as exhibit material. The Ribes have been eradicated, records of the scouts' work showing 83 wild gooseberry bushes being removed from that vicinity though but 3 large Ribes cynosbati were found on the quarter acre plot.

O.C.A.

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## A WORTH-WHILE EXPERIMENT.

There is a man up in Parsonsfield, a woodsman who never believed in blister rust. This man owned a small area of pine which he had planted. He also plants pine in the spring for other people. Deciding to experiment, he set out gooseberry bushes near some of his planted stock, and waited for results. This summer he discovered that all the young pines which had gooseberry bushes planted beside them have been infected with the rust. He is now firmly "sold" on the eradication idea, and from reports of his neighbors, he is going around telling one and all to destroy Ribes or lose their pine. It is perhaps needless to say that a testimony from a man like that is worth more than a book from a professional "Ribes hound".

E.E. Tarbox - Maine.

SCOUTING FOR THE BLISTER RUST IN MICHIGAN

We scouted in the western part of the Lower Peninsula and in the Upper Peninsula. Judging by what I saw I would say that Michigan has less than half as much second growth white pine as Wisconsin. The blister rust conditions are decidedly unfavorable for the disease in Lower Michigan; because where the Ribes are, there are no pines and vice versa. What white pine is present, is located along the rivers and the sand hills of the lake shore.

Planted white pines and black currants are abundant enough in the south-western and the west-central parts of the state to furnish scouting; but not in the north-western region where the country is not well settled. The interior of this north-western district is desolate, mostly sand-barren plains, which offer no chance for the spread of blister rust. The northern tip of Lower Michigan offers fair scouting on native Ribes. We found good white pine reproduction mixed with white cedar on Mackinac Island; and Ribes (including black currants) were abundant. This island, which as you know is of historic and resort interest, contains 2200 acres, 1640 of which belong to the State of Michigan. Other nearby islands which doubtless have the same flora, should be more thoroughly scouted in the future.

The eastern half of the Upper Peninsula is wild, burnt-over brush, or virgin hardwood with cedar and spruce swamps. The Marquette National Forest near Brimley contains mostly jack pine, a little white pine, and no Ribes. T boundary region of Wisconsin and Michigan which is drained by the Menominee River and its tributaries offered us the best scouting. It is a farming

region with second growth pine and Ribes in pastures. The following Ribes were found in the Upper Peninsula: R. cynosbati, R. lacustre, R. hirtellum, R. triste, R. glandulosum, and R. americanum.

No blister rust was found and we made thorough inspections at all likely places along the route travelled. I saw no place in Michigan that would be as favorable for the spread of blister rust as the North-of-Amery Area, Polk Co., Wisconsin, which you once visited. If Eastern Michigan does not possess, as indicated by future scouting, more favorable blister rust conditions than the western part of the state, one could draw the general conclusion that Michigan was fairly safe from a blister rust standpoint.

Sept. 21, 1925. William C. Thompson, Wisc.

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NEW YORK ITEMS

Forestry Field Trip. On October 26, Superintendent Pettis, Dr. York and Mr. Amadon, together with Mr. S. B. Detwiler, who is in charge of the blister rust work throughout the United States, were on a forestry field trip to Clinton County, with several prominent lumber-men of the north, inspecting badly infected blister rust areas. The trip was in charge of Mr. B.H. Nichols, Control Agent in Essex and Warren Counties.

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First County Appropriation in New York for Blister Rust. The first county appropriation for work in blister rust control was made this past season. The Saratoga County Board made $500 available to check the spread of blister rust on county property in the town of Providence.

Extracts from The Observer, New York Conservation Commission.

A "PUT OUT" MADE BY THE BLISTER RUST TEAM.

"Evers to Tinker to Chance" A common baseball expression in 1906, referring especially to the assists and putouts in the completion of a double play. Speed, assistance, and cooperation were needed to accomplish the play. Brought through to 1925, one might say - Vermont to Massachusetts to New York - in that a violation of the Federal Blister Rust quarantine was made in Vermont, picked up in Massachusetts and the violator located in New York State - all within a few days this past summer.

Several white pine trees were pulled up in Vermont by a New York tourist. A blister rust agent at Great Barrington, Massachusetts observed the violation, communicated with the Conservation Commission and the trees and violator found on Staten Island. This illustrates what vigilance and cooperation on the part of one state force with another will accomplish.

There is great danger of the blister rust being carried from badly infected areas to relatively uninfected areas on young trees being transported by tourists. The result would be a general infection obtaining a foothold in many areas where there is at present only a light infection. The field employees of the Conservation Commission can do a good bit of service by discouraging such acts when seen along the roads.

Extract from "The Observer, New York Conservation Commission.

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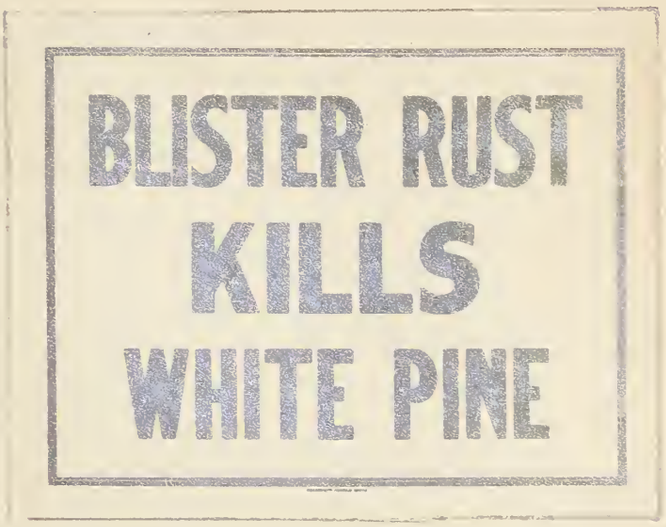
ELEVENTH ANNUAL BLISTER RUST CONFERENCE

AT SPRINGFIELD, MASSACHUSETTS

It is planned to hold the 11th Annual Blister Rust Control Conference at Springfield, Massachusetts, on December 9 and 10.

POSTERS AND TAGS ON REQUISITION
AT THE WASHINGTON OFFICE


Poster #1

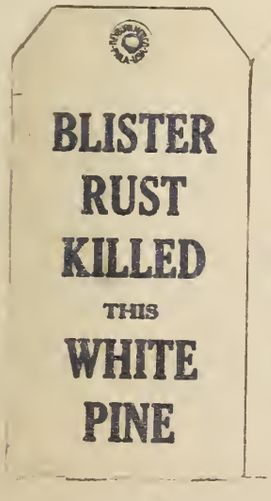



Poster #2


Poster #3


Poster #4

Posters are on buff-colored cardboard and are 22" x 28" in size.




Tag #1


Tag #2

Tag #3


Tag #4


Tag #5

Tags are $3\frac{1}{4}$" x $6\frac{1}{4}$". Tag #3 is red, others are on yellow cardboard

## A JOB FOR FOREST GUIDES AND BOY SCOUTS, ESPECIALLY FOR LONE SCOUTS.

(A Short Story)

Would you be willing to give your boy a part of your pine timber if he would guarantee to clear out the offending gooseberry and currant bushes which spread the blister rust, and to keep them out, was the question asked Mr. Page, the father of an enthusiastic boy scout.

"Why yes! it would certainly be worth it; you see, I have a forty-acre tract in pretty good pine, and I'd have to hire a crew to work it every five or six years to find the Ribes bushes which spread the rust. While of course I could afford to hire a crew, since every acre of pine is increasing in value about $10 per year and the cost of eradication is less than 50 cents an acre, yet if John would take the job I'd give him ten acres of the best pine for his very own".

"Oh Dad!" was all John could say as he listened to his father's offer. Then a bright thought came to him as we talked on. - "Say ! Mr. Collingwood, couldn't two or three boys huntin' the bushes do a better job than one boy?"

I could see what he was driving at, and replied "Yes, of course two or three boys could work like a regular blister rust control crew, and they wouldn't miss so many bushes, as one boy working all by himself."

"Say, Mister, would you mind explaining that proposition of guaranteeing to keep the pine lot clean of gooseberries and currants to 'Red' Burke's and Harry White's fathers? Both of those boys like to work in the woods, and we three could first work on our land, and then we could all work over in

Burke's and White's woods. - That'd be bully!"

I said, "Sure I'll go over with you, but I forgot to tell you one thing you'll be glad to learn. Did you know that if a timber owner furnished the crew to protect his own pine from the blister rust that the state will furnish an experienced foreman?"

"My! that's fine" said John, "then there will be four of us to clean out the bushes, and we boys will learn the right way to do it."

A couple of hours later, after seeing "Red" Burke and Harry White and their fathers, and explaining the plan to them, I left for state headquarters and made this report to the chief -

"July 26 - Visited Marysville. Enthusiastic reception of plan to combat blister rust by influential pine owners; each giving ten acres of pine land to their sons for guaranteeing to keep Ribes out of their timber tracts. Have foreman on the job next Monday promptly, - crew will consist of John Page, 'Red' Burke, and Harry White (sons of the pine owners) anxious to get to work."

- - - - - - - - - - Roy G. Pierce.

COLLECTING WHITE PINE SEED.

The largest amount of white pine seed ever extracted at one place by the Pennsylvania Department of Forests and Waters was brought together at Greenwood Furnace during the 1924 seed collecting season and totaled 452 bushels of cones. The average cost of collecting and transporting the cones was $1.11 per bushel. The cones were threshed three times and yielded a total of 467 pounds of seed, i.e., a little more than one pound of clean seed per bushel, which is about the standard yield. The final cost was $1.08 per pound.

Extract from Forestry News Digest, Amer. Tree Assoc, Oct. 1, 1925.

FIELD CONFERENCE OF NEW YORK AGENTS.

The Field Conference of New York Agents was held in Clinton and Essex Counties, from Oct. 5 to 10. This district is in the northeastern corner of the state. Chestertown, on the north edge of Warren County was chosen as the assembling point, with Elizabethtown, fifty miles north in Essex County, as the first night's objective.

Those in attendance were: Dr. York and Mr. Amadon from the Albany Office; Dr. Martin from Washington; Mr. Nichols, Agent for District 7, Messrs. Baker and Littlefield, Assistant State Pathologists who have been in this district during the past year; Mr. Woodward from Warren County; Mr. Kennedy from Washington; Mr. Hutchinson from Saratoga; Messrs. Rankin, Harpp and Williams from the Catskills; Mr. Knowles from the Gloversville district and Mr. Stevens from the western district.

The indoor session lasted but half a day. After dinner the ensemble started north. Three stops were made on the way to Elizabethtown. Two of these were made in Warren County, as they were only a short distance off the main route. The much observed Remington Lot had something new to offer this year, in the shape of a heavy windfall that took place last July, blowing down considerable large timber on the west side of the stand and taking out a sizeable chunk from the central portion. The Pottersville Demonstration, next in line, is a new departure in the way of field demonstrations. Large rectangles of white cardboard have been set up on poles to mark the infected trees, the poles increasing in length toward the rear, so that a striking mass effect is obtained. At the Schroon Falls Plantation Dr. Martin explained the experimental work being carried on there by the Washington Office.

One of the main features of Tuesday's program was the trip to Poke-o-Moon Shine, (elevation 2100 feet) the biggest little mountain in New York, from the top of which two wholly different types of country may be seen, depending upon whether one looks over the south or the north edge of the cliffs. On the south side the mountain drops off into what is known locally as the "Deerfield Country", partly in Lewis and partly in Chesterfield township. This is a rough, isolated territory, with many steep ledges, no farms except those which are abandoned, and an appreciable amount of white pine, the mature timber now restricted mostly to the ledges and hilltops, with reproduction coming up under the hardwoods on some of the slopes. To look out across this section in October, when the pine blocks and the neighboring topography stand clearly defined, is to encounter a sizeable problem in blister rust control. Here are pine and Ribes, both abundant, both inaccessible for the most part, with eradication at any reasonable cost a doubtful proposition. The conference group standing on the south prospect of the mountain was able to analyze this problem, but did not solve it. The top of Poke-o-Moon Shine itself is covered with a rank growth of Skunk Currants, while the flanks are pine-covered to quite an extent. Northward lies the fertile farming region of eastern Clinton County, with its apple orchards, broad fields and pine lots. Here is a cheerful offset to the spectacle on the opposite side. Here is prosperity, with accessible pine lots and comparatively good conditions for eradication.

During the afternoon a visit was made to the Reed farm between Keeseville and Peru, containing a four-acre pine lot about 22 years old, so dense that it is impossible to see more than a rod or two through it in most places. Standing in the center of the lot the agents made estimates as to the number of stems (both dead and alive) per acre. These varied from around 5000 among the more

conservative, to 25,000 by some who got excited. Since then a strip cruise has been run through the stand, showing the average density to be 9,400 per acre, with a range of from 3000 per acre on the edge of the stand to 22,000 in the thickest part. About half the stems are dead.

Another feature of the Reed place is an epidemic of the "Shoe-string Fungus" (Armillaria mellea). This has infected a good many trees on the north edge of the stand, a number of which have already been killed. An experiment in control is now being carried on here. Dr. York spent some time in showing how to identify this disease. He showed the characteristic hyphal growths or "shoe strings", and pointed out the distinctions between them and true roots.

On the morning of Wednesday the 7th, the plantations of Mr. George Smith of Keeseville, were visited. There are 75,000 trees of 8 different species growing here. Most interesting in this plantation was a demonstration of the effects of pruning on Scotch Pine, showing that this treatment, if done right, may be of some value. The Comptonia rust was observed here on both the sweet fern and Scotch pine.

On the LaMountain farm, Clintonville, a stand of pitch pine was inspected, which had been propagated by the broadcast sowing of seed. In this same vicinity a peculiar grouping of pines occurs. Four native pines, (P. strobus, resinosa, rigida and banksiana) are to be found growing in the same stand.

The Harkness area was also on the Wednesday morning program. Here is a splendid stand of pine, on which a certain amount of forest management is being practiced. Beyond the main stand is some reproduction which blister rust has attacked heavily. One of Dr. Snell's plots is located here, showing 75% infection.

The first trip in the afternoon was to Dr. Spaulding's experimental area, Wilmington Plantations. In these plantations, also is a fine example of the

favorable effect of white birch as a nurse crop for pine.

In Wilmington Notch, an observation was made of the Prickly Currant (Ribes lacustre) a species limited in New York almost wholly to certain parts of Clinton and Essex Counties.

At the Whiteface Mountain House a night session was held - the only one of the conference. The chief matters under discussion were the outline for suggested fall and winter activities, as worked out by Dr. York, and a concise talk was given by Dr. Martin in which he outlined some of the relationships between the Washington Office and the men in the field and mentioned the opportunity for valuable experience presented by the work and contacts of the blister rust control agents.

The work for Thursday started at Wilmington, led through Placid and Saranac to Lake Clear Nursery, thence across a corner of Franklin County and down the valley of the Saranac River back to the Lake Champlain region. At Lake Placid Mr. Amadon pointed out a large tract of virgin spruce on the range north of the Lake, acquired by the state with the aid of the Placid interests in order to preserve the scenic beauty of the place. Between Placid and Saranac are the Chubb Hill Plantations, among the oldest of the state plantings. There is one planting here of Western Yellow or "Bull" pine (P. ponderosa) planted as an experiment but it has not thrived and its use has therefore been discontinued.

In the afternoon the Goldsmith Plantation, 400 acres of white pine, was visited. One of the main things scheduled for the afternoon was the Downs infection area near Schuyler Falls. Due to various delays and detours, it was nearly dark when members of the conference got there. This was unfortunate as this is perhaps one of the most serious infections in the Northeast. A peculiarity of the infections there is that they are almost without exception at the very base of the trunk. Dr. Snell has a study plot there, also.

On Friday a visit was made to Mr. Mason's pine stands and to his mill at Peru. This differs from the ordinary mill in that it forms a complete unit in itself, taking the logs from the pond, running them through to dressed lumber and manufactured articles there at the plant. In the afternoon a trip was taken around the Miner estate at Chazy. This included reforestation projects and a small private nursery. Due to weather conditions, some of the program at Miner's, including some natural pine reproduction that has made remarkable growth in both height and diameter, had to be omitted.

Saturday morning saw the conference homeward bound, through what was a very good imitation of a December blizzard - proving that a good trip can't be spoiled by the weather.

Extract from report of Conference by E.W. Littlefield,
Assistant Forest Pathologist

## COLORED POSTER AVAILABLE

The supply of the old Blister Rust Control poster "Save Your Pines" has been practically exhausted at the Washington Office, but Mr. Stimson writes that they have a supply of about 725 copies at the Boston Office, together with mailing tubes, which are available.

Agent! If you want some of the posters and the supply at your State Leader's Office is exhausted, write direct to Mr. E.O. Filler, Room 403 Appraisers Stores Building, 408 Atlantic Avenue, Boston, Massachusetts.

R.G.P.

## BLISTER RUST A SUBJECT FOR NATURE STUDY IN SCHOOLS.

"Last Monday I was working some roads placing posters, and in so doing I ran on to a small lot which was heavily infected with blister rust. The trees were about twenty years old and there were some nice butt cankers throughout the lot.

"Infected trees could be found right along the roadside; and as I was busy tagging trees I heard children playing in the school yard just above the lot. I took a bundle of blister rust folders and went over to the school and called on the teacher. After I had told her who I was, I explained about the blister rust in the lot, and how the trees were being marked with red and yellow tags.

I invited her to pass the folders around to the pupils, and then later when time permitted, or when some sort of nature study was being taken up with the pupils; to take them over on the lot and let them hunt for the blister rust. The idea was that they could check up on what they had read in the folders by actual searching, and by observation of the trees which were tagged.

The teacher thought this was a fine idea, and she readily accepted the folders. She also asked me some other questions about the rust, which showed by their nature that she was somewhat familiar with the disease."

E.E. Tarbox - Maine.

## REPORT OF A JOINT SURVEY FOR THE WHITE PINE BLISTER RUST IN SOUTHERN ONTARIO

During the period of September 12 to 19, 1925, a trip was made to various points in the Province of Ontario and to a few localities in Quebec immediately across the Ottawa River from Pembroke. Arrangements for the trip were made by Dr. H.T. Gussow, Dominion Botanist at the Central Experimental Farm, Ottawa, and by Mr. S.B. Detwiler, in Charge of Blister Rust Control, Washington, D.C. The party consisted of Dr. W.T. MacClement and Dr. W.A. McCallum representing the Dominion Government, and Messrs. S.B. Detwiler, G.B. Posey, and L.H. Pennington representing the U.S. Dept. of Agriculture. The object of the trip was to determine something as to the status of the white pine blister rust in Ontario.

Previous scouting by Dr. MacClement and other men working under the direction of the Dominion Botanist had shown the rust to be prevalent and widely spread upon Ribes, particularly cultivated black currants. It was known that the rust had been present upon white pine in some plantations in the Niagara Peninsula and near Bowmanville. Except for a small area with infected trees near Fonthill, infection of native pine was not known in the Province.

In Ontario the trip included over a dozen separate localities in the Districts of Renfrew, Nipissing, Parry Sound, Muskoka, Victoria, Durham, and Hastings, all in southern Ontario, and the findings are probably indicative of general blister rust conditions in the Province.

Infections were found at every locality where extensive scouting was carried on except at North Bay on the north shore of Lake Nipissing, and at Pleasant Point near Lindsay. The cultivated black currants were usually the heaviest infected, although infections were frequently found on R. cynosbati,

R. hirtellum, R. triste, R. glandulosum, and R. americanum. Infections were found on white pines near Pembroke, also just outside the Petawawa Forest Reserve, Calumet Island, Mattawa, Huntsville, and Port Hope.

The brief survey taken in connection with Dr. MacClement's findings show that the rust is widely distributed in the pine region of Ontario. There have been three periods of infection on pine, the first at least ten years ago.

When the next favorable season for pine infection comes, there will be severe infection in many localities where there are black currants or wild Ribes present. There may be several years in succession in which the rust does not cause much infection in pine. It is, however, becoming increasingly evident that in any region in which white pine does well, favorable seasons for rust infection are frequent enough to prevent the young trees from reaching maturity. If white pine is to be used in any forestry program in the future, blister rust must be taken into consideration in all localities where Ribes grow.

Extract from Report by L.H. Pennington, of October 1, 1925.

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## WATERFORD, VERMONT PINE LOT LEASED AS EXPERIMENTAL AREA.

Recent field observations produce additional evidence that blister rust is doing considerable damage both to mature and young growth. A damage study made in the mature pine stand at Waterford, showed 77.2% of the 307 trees in a two acre plot were infected. This stand and 20 acres of pasture growth have been leased as a federal experimental area.

Near Chestertown and Pottersville, New York, thousands of young pine are dying from the rust, the trees being attacked when only a year or two old. It has been generally observed that when pine seedlings can be found diseased, little infection is noticeable on the mature trees. On the other hand, when damage is conspicuous on larger pines, there is little evidence of reproduction. Apparently the disease kills out the young growth before it becomes conspicuous on the larger trees.

E.C. Filler.

## SECOND NEW ENGLAND FORESTRY CONGRESS

The Second New England Forestry Congress will be held in Memorial Hall, Springfield, Massachusetts, December 10,11,12, 1925. A tentative program has been arranged which will be of interest to all foresters and to those utilizing the products of the forest. An exhibit of forest products will be held in connection with the congress. Copies of the program can be secured from Mr. Harris A. Reynolds, at 4 Joy Street, Boston, Massachusetts.

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## STUMPAGE PRICES FOR WHITE PINE IN NEW ENGLAND.

(In Dollars per M feet, Log Scale Weighted Averages of Actual Sales or Purchases).

| Year | Average all qualities | Best quality | Medium quality | Poor quality |
|---|---|---|---|---|
| 1900 | 4.00 | 4.60 | 3.00 | 1.60 |
| 1901 | 4.05 | 4.65 | 3.05 | 1.60 |
| 1902 | 4.10 | 4.70 | 3.10 | 1.60 |
| 1903 | 4.15 | 4.85 | 3.15 | 1.65 |
| 1904 | 4.25 | 5.15 | 3.20 | 1.70 |
| 1905 | 4.40 | 5.55 | 3.30 | 1.75 |
| 1906 | 4.70 | 6.15 | 3.55 | 1.85 |
| 1907 | 5.10 | 6.70 | 3.90 | 1.95 |
| 1908 | 5.45 | 7.30 | 4.35 | 2.15 |
| 1909 | 5.80 | 7.25 | 4.60 | 2.45 |
| 1910 | 6.10 | 7.85 | 4.70 | 2.75 |
| 1911 | 6.40 | 7.95 | 4.80 | 3.10 |
| 1912 | 6.55 | 8.05 | 4.90 | 3.40 |
| 1913 | 6.75 | 8.25 | 5.10 | 3.75 |
| 1914 | 6.95 | 8.50 | 5.40 | 4.10 |
| 1915 | 7.20 | 8.80 | 5.90 | 4.35 |
| 1916 | 7.50 | 9.30 | 6.60 | 4.55 |
| 1917 | 7.90 | 9.90 | 7.10 | 4.70 |
| 1918 | 8.50 | 10.75 | 7.50 | 4.80 |
| 1919 | 9.00 | 11.30 | 7.75 | 4.90 |
| 1920 | 9.40 | 11.70 | 7.90 | 4.95 |
| 1921 | 9.75 | 11.90 | 7.95 | 5.00 |
| 1922 | 9.85 | 12.00 | 8.00 | 5.00 |
| 1923 | 9.90 | 12.00 | 8.00 | 5.00 |

Note: The above figures furnished by the Bureau of the Census have been used by Mr. Newman in making the accompanying graph.

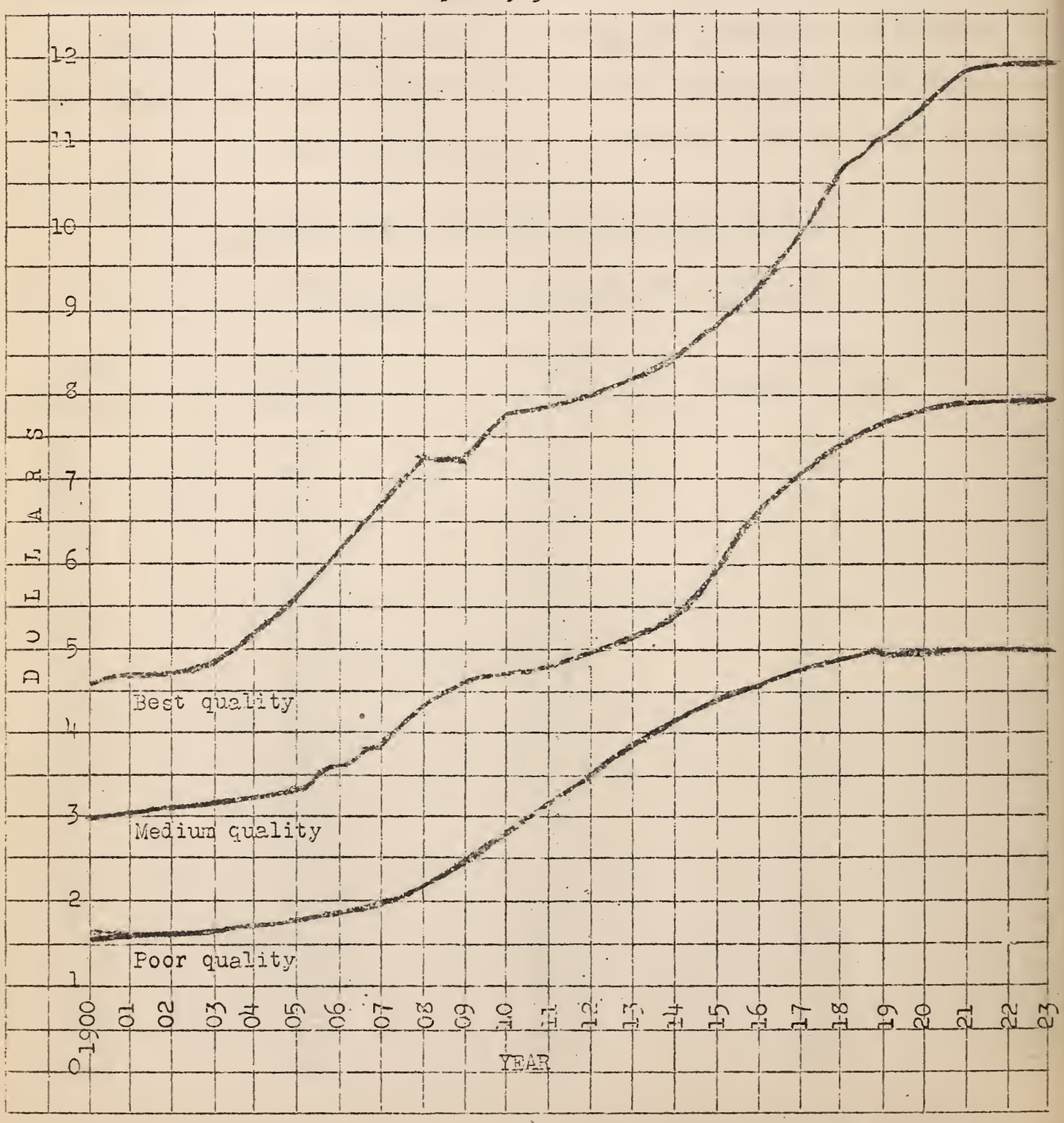
STUMPAGE PRICES

NEW ENGLAND WHITE PINE

Based on Actual Sales Report to the

Bureau of the Census

1900-1923 Incl.




Del. L.E. Newman
1925.

## PERSONALS

Stephen H. Boomer while pruning some pine shade trees with branch infections, on October 20, suffered a severe cut on the knee with an axe. Several stitches were required to be taken and the accident necessitated Mr. Boomer's taking several days leave.

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Mr. Wm. T. Poop has headquarters at Arlington, Middlesex County, Mass., effective November 1. He has completed blister rust control work in Essex County for the present.

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Mr. S.B. Detwiler left on November 11 for a trip through the states of Maryland, Pennsylvania, New York, Indiana, Missouri, Illinois, Nebraska, Wisconsin and Minnesota for the purpose of overseeing blister rust quarantine inspection work and conferring with field employees and state cooperators relative to blister rust control work in progress.

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Mr. Percy E. Melis, Junior Forester was headquartered at Corvallis, Oregon, November 1. His headquarters were formerly at Spokane, Washington.

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Mr. Edward Dickey was appointed Agent, Nov. 2, with headquarters at Missoula, Montana.

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Mr. Robert L. MacLeod, Field Assistant at Vancouver, British Columbia, resigned from Blister Rust Control on October 6, 1925.

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Mr. and Mrs. A.H. Hearn announce the arrival of a daughter at Schroon Lake, New York, October 26. Congratulations.

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Messrs. Wm. G. Guernsey, Leland O. Drew, Harvey I. Gillespie, Agents in Blister Rust Control, have recently resigned.

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Dr. H.H. York, Pathologist with the New York Conservation Commission visited the Washington Office, Nov. 9.

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Mr. J.E. Riley, State Leader of Connecticut, left Washington November 7 for his headquarters at New Haven, after a four weeks assignment.

# OFFICE COMMENTS

## IN CASE OF ACCIDENT

It has recently come to the knowledge of the Washington Office that one of our agents suffered a severe accident while engaged in line of duty, but that he failed to submit promptly a regular report blank concerning the injury. Knowledge of the injury did not come to the Washington Office until over two weeks after the accident happened. Since blanks reporting the injury should be sent by the one suffering the accident, to the person supervising his work, within 48 hours after the injury, it is advisable for every agent to have on hand a copy of the various forms:

C.A. 1 - Notice of Injury

C.A. 2 - Report of Injury

C.A. 3 - Report of Termination of Total or Partial Disability.

C.A. 4 - Claim for Compensation on Account of Injury.

C.A. 11 -Right to Compensation for Personal Injuries of Civil Employees of the United States under Federal Compensation Act of September 7, 1916. 4pg. booklet.

C.A. 18 -Regulations Concerning Duties of Employees, Official Superiors, Medical Officers, and Others under Federal Compensation Act of September 7, 1916. 64 pages. (This booklet lists other forms which are used less frequently than C.A. 1,2,3, and 4.)

ATTENTION OF AGENTS!

If you do not have a supply of these forms (above listed) write to your state leader for them and keep a supply on hand so that they may be used immediately in case of accident. Fill out two copies of necessary forms; retain one for your files and send the other to your immediate supervisor who will forward it to the Washington Office.

# PUBLICATIONS

## Blister Rust

Martin, J.F. - Status of White Pine Blister Rust Control in the U.S. in 1924. The Plant Disease Reporter, Supplement 42, pages 314, 315, Sept. 15, 1925. Mimeographed - U.S. Bureau of Plant Industry, Washington, D.C.

Snell, Walter H. and Annie Rathbun-Gravatt. Inoculation of Pinus strobus trees with sporidia of Cronartium ribicola. Phytopathology - Vol. 15, No. 10, p. 584-590. Oct. 1925.

Spaulding, Perley - A partial explanation of the relative susceptibility of the white pines to the white pine blister rust (Cronartium ribicola, Fischer) Phytopathology, Vol. 15, No. 10, p. 591-597, Oct. 1925.

Spaulding, Perley, and Annie Rathbun-Gravatt - Conditions Antecedent to the Infection of White Pines by Cronartium Ribicola in the Northeastern United States. Phytopathology Vol. 15, No. 10, p. 573-583, Oct. 1925.

## Eastern White Pine

Averill, R.C., W.B. Averill, and W.I. Stevens - A statistical forest survey of seven towns in central Massachusetts. Harvard Forest Bulletin No. 6, 1923.

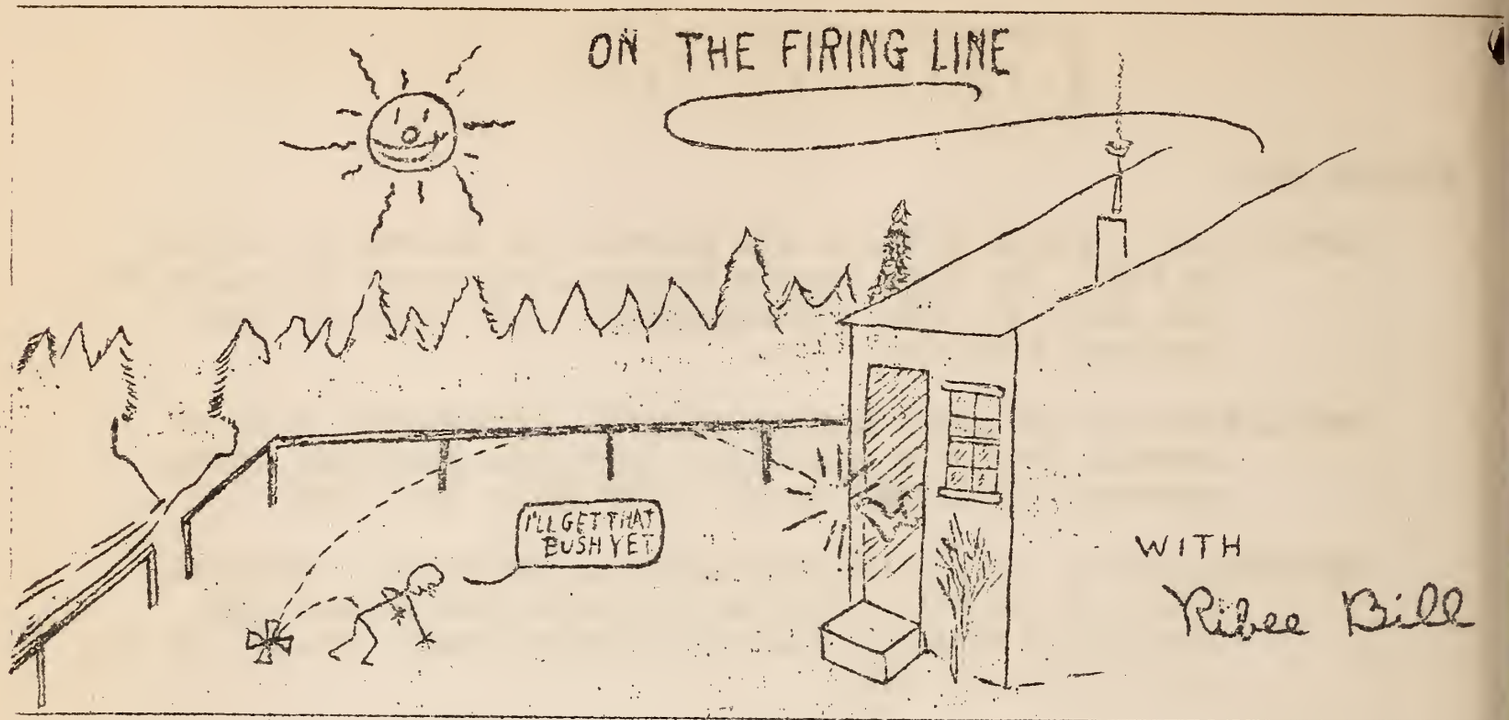
While this bulletin does not deal with white pine alone, the white pine type and the mixed pine and hardwood type form an important part of the forest area of the towns studied. The towns included in the study are Northfield, Erving, Orange, and Warwick in Franklin County, and Petersham in Worcester County, lying in an area of heavier better soils; and Winchendon and Royalston in Worcester County quite typical of the towns partly covered by sand plains.

This bulletin is the result of a study made to test the practicability of an extensive survey for obtaining data on forest conditions over large areas.

"The survey was made by running parallel lines across the area at definite intervals." The total time consumed in field work was 48 man-days; 183 miles of line were run over a total area of 145,884 acres. This gives an average of 3,039 acres per man-day. Under any ordinary conditions a man can travel over about a mile of line an hour, and take all necessary data; but on an average, more than six miles a day cannot be covered. Subsequent office-work is estimated at 125 man-days."

## Sugar Pine

Jacobs, Allen W. - Hastening the Germination of Sugar Pine Seed. Journal of Forestry, Vol. 23, No. 11, p. 919-931. Nov. 1925.




Are any of us failing to clearly see the importance of blister rust control? If so, read the Chief's note on the first page - "Pines Dying Like Flies", and exercise your vision. Aren't those young pines worth saving?

If some say, "Oh! those are seedlings and won't amount to much in my lifetime" turn on the big guns of the Waterford infection area in Vermont where big trees are dying. I tell you, Agent, these facts and figgers come right from the Firing Line.

We're in a big fight for Forest Conservation, and the enemy on our salient is not resting on his arms either. We win a strategic point when we oust the cultivated black currant from our midst; we win another when we have mopped up the Ribes in an entire town, but when we have cleared the wild Ribes from the white pine areas of a county as Roop has in Essex County, Massachusetts; and Bradder in Caledonia County, Vermont, we know we're winning.

# BLISTER RUST NEWS

U.S. DEPARTMENT of AGRICULTURE

Office of Blister Rust Control.

CONTENTS - VOL. 9, NO. 12.

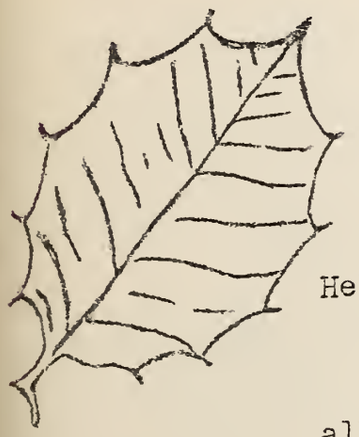
UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Plant Industry
Washington, D.C.

# THE BLISTER RUST NEWS

Issued by the Office of Blister Rust Control
and the Cooperating States.

Vol. 9, No. 12. CONNECTICUT NUMBER Dec.15,1925.



Hello Agent!

You have been pullin' bushes for me all season, now I am pullin' for you, and hopin' you have enjoyed the Christmas and New Years Holidays and the good times that go with them.

The rest of the "Blisters" here in Washington have asked me to send you their best, so - Here's to You Agent! ! and may the New Year find you happier and more prosperous than the last.

Yours,

Ribes Bill.

BLISTER RUST SITUATION IN CONNECTICUT.

My purpose in writing is to convey, briefly, the outstanding features of the Connecticut situation as it impresses one who has only recently become associated with the work here. To those who have seen Connecticut blister rust reports of previous years or Messrs. Filley and Hicock's publication "The Control of the White Pine Blister Rust in Connecticut", this article will present very little that is new.

Does the blister rust problem in Connecticut differ materially from that in the rest of New England and New York, and what are the conditions determining our problem? Such questions suggest themselves to a new comer since it is apparent that the plan of work in Connecticut is unlike those in the other northern states. The answer is not hard to find. Economic conditions, localization of pine and scarcity of Ribes throughout most of the state combine to create a problem in blister rust control peculiar to Connecticut.

The state has a total area of 4,991 square miles and a population of 1,380,631, which gives an average of 277 persons per square mile. It is a manufacturing state and the great majority of its citizens have no direct financial interest in pine, nor in timber land in general. Yet nearly a million and a half acres of the land area are occupied by forests, one hundred and fifty thousand acres of which are in pine-hardwoods and twenty thousand acres are in pure pine of commercial age. These two types contain approximately one hundred and fifty million board feet of white pine. There are in addition at least twenty thousand acres of pine reproduction and this area is increasing yearly. The area of commercial white pine comprises the northern third of the state, extending in a narrow strip down the eastern border almost to the Sound. The area of abundant wild Ribes includes fifteen townships in the north western part of the state, aggregating about three hundred and seventy-five thousand acres, and roughly coinciding with the western portion of the natural pine region.

Within this comparatively small area where pine and Ribes grow abundantly and in close proximity to each other we have an eradication problem comparable to that of the other northeastern states. Over nearly half of this area where pine grows most abundantly infection is heavy and reproduction is rapidly disappearing. For these few towns the state has adopted, for an eight-year period, a policy of eradication at state and town expense. In the other towns within the Pine-Ribes region the state cooperates with the private owner on a "50-50" basis or in some cases it furnishes a foreman who directs the work of the one or more men supplied by the pine owner. Thus there are two plans for cooperative control within the Pine-Ribes region; one calling for state and town cooperation; the other calling for state and individual cooperation. Outside of the Pine-Ribes area but within the region of abundant natural pine, scouting is carried on to determine pine and Ribes conditions and to eliminate those areas that contain few or no Ribes. Such scouting is done by the agents.

where Ribes are found to be numerous enough to call for crew work, efforts are made to persuade the owner to eradicate, and where enough crew work is needed to maintain a foreman in a locality for a considerable length of time the policy provides for the employment of such a foreman at state expense. The three plans already discussed pertain only to the "so called" pine region. At least three quarters of the state lies outside of this region and contains very little natural pine and few Ribes. There are, however, numerous plantations of white pine, amounting to something less than 10,000 acres, some of which were made with infected foreign stock. The early work was largely devoted to inspection of these plantations and the removal of infected trees so that at the present time very little infection is to be found. The problem for the greater part of the state, then, is the protection of these plantations and the few natural stands, primarily through the destruction of cultivated Ribes within dangerous distance of the pine. The plan of work calls for extensive scouting on the part of the agent for the purpose of gaining information relative to the progress of the disease; it calls for inspection of plantations and a personal contact with the owners.

Educational efforts in Connecticut are conducted along conservative lines. In view of the facts that manufacturing and farming are the principal occupations and that conditions determining heavy infection appear to be localized in a comparatively small portion of one corner of the state, it has been deemed expedient to direct educational efforts toward those who are, or should be concerned with the production of pine. It is believed that a sensational campaign throughout the state would only defeat its own purpose. At the same time the state recognizes that its citizens are all directly or indirectly benefited by pine protection as an important factor in the production of local lumber. Thus while economic conditions demand state expenditure for eradication of the wild Ribes in the pine producing region, policy calls for conservative educational efforts elsewhere in the state. Intensive educational work is confined to those towns where plans call for supervision of private eradication during the present or coming season. Here the usual methods are employed to reach the prospective cooperator and to inform the community as a whole concerning the disease. Last year fourteen percent of the agents' time was spent on educational work and future plans call for a considerably larger proportion. Outside of the regions where state, town and supervised private eradication is sought, the public is informed of the blister rust disease principally through the medium of news articles, although a direct appeal is made to pine owners by means of form letters and interviews. Posters are used sparingly.

Service work on the part of the educational agents is not confined to blister rust control. It is recognized that he can be of greater service and accomplish more in his blister rust work if he enlarges his field of activities to include advice and assistance in the field of general forestry, providing such work is carried on incidental to his own line of activities and in cooperation with the proper agencies already in the field of forestry extension.

In the foregoing I have attempted to touch on only the outstanding features of the Connecticut situation. I will not attempt to discuss the

present status of our control work except to say that approximately half of the area to be worked by state crews has been eradicated. That eradication has accomplished its purpose is demonstrated by the results of a check made this year by Mr. Endersbee and his crew on eradication work done in 1920 and 1921. His study shows that where only 85% eradication was done subsequent infection has been kept down to a point justifying the earlier work. The problem of re-eradication has appeared and is being handled along with the initial eradication work. From all indications the initial eradication will be accomplished within the Pine-Ribes area by the end of the eight-year period. It is also estimated that initial scouting throughout the non-pine area will be accomplished, and that all owners of natural or planted white pine will have been informed of the disease and that most of them will have taken the necessary protective measures.

J. E. Riley, Jr.
State Leader, Connecticut.

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BLISTER RUST- FORESTRY MEETING, A GOOD COMBINATION

AT AUBURN, NEW HAMPSHIRE.

"In regard to the Auburn meeting, I would say that it was a success. At the meeting the film "Story of White Pine" was first presented. Then Mr. Hale of the Forestry Department talked on town forests, and then the two reels "The Pines" were presented. The pictures stimulated a great deal of interest over blister rust and the subject was discussed for over one half hour pro and con. I then turned the discussion to 'Town Forest' in order to give Mr. Hale a chance. The result was that a committee was appointed to investigate the town forest proposition and to make a report at the next town meeting. I also called upon the District Fire Chief to make a few remarks. - Fifty-one residents of the town were present. It was a real good community forestry meeting dealing with different phases of their forest problems."

K. E. Barraclough
New Hampshire.

## DATA ON BLISTER RUST INFECTION IN CONNECTICUT

In April 1925, Mr. McDonnell, then blister rust control agent in Litchfield County, Connecticut, obtained pine infection data in the towns of Salisbury, Canaan and North Canaan. In Salisbury, 18 plots, each 1/16 acre in size, were laid out in block 11, which contains about 300 acres of white pine. The plots were scattered over the block to give representative data on infection conditions. All trees on the plots over 25 years old were not examined and were not included in the data given below.

TABLE I

| Plot No. | No. pine examined | Number infected | No. dead | Per cent infected | Per cent dead | Per cent infected and dead |
|---|---|---|---|---|---|---|
| 1 | 88 | 5 | 1 | 5.68 | 1.13 | 6.81 |
| 2 | 97 | 12 | 0 | 12.37 | 0 | 12.37 |
| 3 | 135 | 22 | 7 | 16.29 | 5.18 | 21.47 |
| 4 | 53 | 5 | 0 | 9.43 | 0 | 9.43 |
| 5 | 266 | 73 | 26 | 27.44 | 9.73 | 37.17 |
| 6 | 324 | 64 | 100 | 19.75 | 30.86 | 50.61 |
| 7 | 143 | 2 | 1 | 1.39 | 0.69 | 2.08 |
| 8 | 198 | 28 | 13 | 14.14 | 6.56 | 20.70 |
| 9 | 84 | 4 | 1 | 4.76 | 1.19 | 5.95 |
| 10 | 112 | 5 | 0 | 4.46 | 0 | 4.46 |
| 11 | 770 | 59 | 12 | 7.66 | 1.55 | 9.21 |
| 12 | 268 | 42 | 4 | 15.66 | 14.18 | 29.84 |
| 13 | 174 | 64 | 69 | 36.78 | 39.65 | 76.43 |
| 14 | 113 | 36 | 0 | 31.85 | .00 | 31.85 |
| 15 | 37 | 2 | 0 | 5.67 | 0 | 5.67 |
| 16 | 93 | 2 | 0 | 2.15 | 0 | 2.15 |
| 17 | 715 | 97 | 19 | 13.56 | 2.31 | 15.87 |
| 18 | 274 | 72 | 12 | 26.27 | 4.37 | 30.64 |
| Totals | 3,944 | 594 | 265 | 15.06 | 6.72 | 21.78 |

Of the 3,944 trees examined, 265 or 6.7% have been killed by blister rust and 594 or 15% are infected. Stated another way 21.8% of the pines on the plots under 25 years old have been attacked by the rust and 6.7% killed.

The infection data secured on the plots was supplemented by running a strip 66 feet wide across the block examining all pines on it under 25 years old. The results obtained closely approximate those secured on the plots as shown in Table II.

TABLE II

| Length strip | Number pine examined | Number infected | Number dead | Per cent infected | % dead | % infected and dead |
|---|---|---|---|---|---|---|
| 2,645 ' | 6,869 | 1,081 | 478 | 16.16 | 7.15 | 23.31 |

Although many more trees were inspected on the strip than on the plots, the percent infected and the percent killed by the rust do not differ by more than one percent. Of the 1081 infected trees 478 had trunk cankers. Combining Tables I and II gives the following figures:

TABLE III

| Number pine examined | Number infected | Number dead | Percent infected | Per cent dead | Percent infected and dead |
|---|---|---|---|---|---|
| 10,632 | 1,675 | 743 | 15.75 | 6.99 | 22.74 |

The data indicate that blister rust is generally distributed throughout the area examined and that approximately 1/5 of the pine under 25 years of age is neither dead or diseased.

In the towns of Canaan and North Canaan the pine under 25 years of age on 5 plots of 1/16 acre each were inspected for blister rust with the results shown in Table IV.

TABLE IV

| Plot number | Number pine examined | Number infected | Number dead | Per cent infected | % dead | % infected and dead |
|---|---|---|---|---|---|---|
| 1 | 23 | 9 | 0 | 39.13 | 0 | 39.13 |
| 2 | 21 | 7 | 1 | 33.33 | 4.76 | 38.09 |
| 3 | 38 | 0 | 0 | 0 | 0 | 0 |
| 4 | 58 | 7 | 2 | 12.06 | 3.44 | 15.50 |
| 5 | 202 | 23 | 2 | 11.38 | 0.99 | 12.37 |
| Total | 342 | 46 | 5 | 13.4 | 1.4 | 14.9 |

Here blister rust infection is nearly as abundant as on the Salisbury area. The percentage of pine infected is about the same but the percentage of the trees that have been killed by the rust is much lower. However, the number of dead trees will undoubtedly increase rapidly as the disease progresses.

The amount of infection on these areas should not be taken as typical of average conditions for the State. They were selected for study because of the prevalence of the disease and at most can be considered only as representative of conditions on restricted local areas in Litchfield County. In the State as a whole there are large sections where wild Ribes are few and little or no infection is present.

J. F. Martin.

BLISTER RUST A LA CARTE

The carte in this case is a Ford truck, owned by Agent Holden. For some time Holden has been using this truck as a means of bringing blister rust to the very doors of the pine owners of Windham County, Vermont. The machine has been equipped with an exhibit which effectively tells the blister rust story. Fresh specimens are a conspicuous part of the exhibit. It is safe to say no one ever went by the truck without seeing it (and confidentially, without hearing it). Tied to the front and rear mud guards are good examples of blister rust cankers properly labeled with yellow tags. In the body of the truck are larger specimens up to ten inch logs and different kinds of Ribes bushes. Posters, of various sizes, tell the principal facts. Fastened to the back of the top is a large sign lettered "Blister Rust Demonstration Here". The "Save Your Pines" posters ornament the sides of the doors, which wave triumphantly in the breeze. A few fire posters, charts of blister rust damage studies, and a supply of literature complete the outfit.

A week's trip convinced me that everyone in Windham County knew Holden and just what he was doing. The truck has been a big factor in helping Holden get acquainted and in gaining the confidence of the people. Pine owners have had a chance to see for themselves, without any special effort on their part, just what the disease looks like and what it is capable of doing. I did not see a single pine owner who was not interested in the exhibit and who was not anxious to have his woodlot examined. Each day, Holden secured from four to six individual cooperators who signed an agreement to pay the cost (wages of foremen and laborers) of the Ribes eradication work on their lands. When the truck was driven into a village, a group of interested persons would soon

gather around and ask numerous questions. Usually such contacts lead to prospects and eventually to cooperators.

Not only does Holden make his truck earn its salt, but even the garage-barn does its bit in disseminating the facts concerning blister rust. The barn is located on one of the main state highways. The large three-wing blister rust panel has been fastened to the barn, as well as a few attractive posters and charts. Arranged in front of this background are several good speciments of pine infections, some of which are on trunks eight to twelve inches in diameter. Many people stop to inspect this exhibit and even come to the house for further information. Holden has proved that SEEING IS BELIEVING.

E. C. Filler

A LEAF FROM AN AGENT'S NOTEBOOK.

Nov. 3, Had talk with Messrs. Hoyt, Dowitt, Huckins and Foss. Examined pine belonging to Mr. Hoyt, for rust infections.

Nov. 4, Prepared blister rust maps for Post Offices. Attended meeting held jointly by Boys' and Girls' Clubs and Farm Bureau and Grange. 103 present.

Nov. 5, Examined land of J. Smith for pine infections. Rust found on currants across town line in Albany.

Nov. 6, Talked with Mr. Brown, Selectman in North Wakefield, about Ribes eradication in his town. Scouted area in Wakefield where Ribes have yet to be pulled.

Nov. 9, Attended Annual Farm Bureau Meeting at Tamworth. Made report on blister rust control work for the year.

S. H. Boomer, New Hampshire.
Taken from Weekly Itineraries - R.G.P.

BLISTER RUST ERADICATION IN LITCHFIELD COUNTY, CONNECTICUT

Say "Connecticut" and the non-resident thinks of manufacturing and bustling industry. Say Litchfield County and the initiated calls to mind the rural scenes of the hill section of which Old Litchfield is the County Seat, - a section having half the population now that it had in 1800 in spite of its having two thriving manufacturing cities! Litchfield itself, is a village of about 900 people now, but was in 1804 the fourth town in size in Connecticut. Litchfield County has the most merchantable and potential pine in the state. It has the most Ribes. It is therefore the chief battle-ground of the Connecticut Blister Rust fight.

For economic reasons the pine must be saved. In every town there is a dealer and lumber yard selling southern lumber and western shingles. The need for a timber supply has been great, but too little emphasized. Aside from the actual value of pine involved there is the more theoretical view of unproductive acres. Pine can reconquer the land which has been lost to hardhack and alders. The quantity of such lost land has been increasing, for in many instances over the county it will be found that two men are doing all the work on a farm formerly worked by twelve. Even with improved machinery they cannot, in the rock-ribbed Litchfield Hills avoid losing some land to brush and forest. Wherever seed trees were left or have come up to seeding age, little pines are coming in unobtrusively, little suspected in most cases by the owners. The total expectation value (or replacement value by planting) is much greater than anyone knows. Many an old pasture is a cradled pinery. Even among sprout hardwoods on land which has always been in woods or brush, an increasing amount of pine is becoming established. Well directed thinnings of such stands should be encouraged wherever possible.

Besides the present and future economic importance of pine to Litchfield County, the historic past of the county has established for it an honorable status which cannot be ignored. Litchfield County does not attempt to survive on the glories of its past. It is too much imbued with a New England sense of humor to make that mistake. It probably pays less tribute of reverence to its historically great than does the country at large. Because of its historic setting, even though the last farmer should plow his last furrow, yet Litchfield County has and must continue to have a place in the heart of the nation. The county has that intangible something which in business is valued as good will; something which cannot be bought but which is secured only through years of honest living. In Litchfield Town the birthplace of Ethan Allen still stands. The Ribes less than 1000 feet over the hill will be destroyed in 1926. The house that contained the leaden statue of King George III, which was torn down in New York, sent to Litchfield and melted into bullets is still pointed out. So also the Henry Ward Beecher and Harriet Beecher Stowe home. The site of the first law school in America is definitely known. Litchfield through the law school association was better known to the old Southern aristocracy than any other town of its size in the North. The imagination is somewhat staggered at thinking of John C. Calhoun of South Carolina and the authoress of Uncle Tom's Cabin dwelling in the same town.

Leaving Litchfield, Ethan Allen spent part of his boyhood days in Cornwall and part in Salisbury. Eradication work has progressed well in both towns. Splendid pines are being established free of blister rust in Cornwall Hollow the home and burial place of the two generals, John Sedgwick of Revolutionary fame, and John Sedgwick of Civil War fame.

The site of the oldest school for training foreign missionaries is at Cornwall Plain, a hamlet skirted round about with pines. The Cathedral pines, the Ballyhack pines, and the Leuchs pines are all near.

It is most fitting that in Salisbury eradication work has progressed so well. Otherwise it were almost a slight to the memory of good Bert Williams, Lieutenant and Forester, shot down on the firing line in France. Eradication work will soon be undertaken to protect the pines near the birthplace of John Brown of Osawatomie, in Torrington Township. Nor shall Goshen be neglected in control work. From near the hamlet of West Goshen seven miles from a railroad, once a point of international renown in the cheese exporting industry, pine logs go out by truck to Torrington.

A third and powerful reason for Litchfield County's Blister Rust Control work is the aesthetic. The Switzerland of Connecticut! Its spots of emerald beauty must be protected. Sooner let the spire or noble entrance to some beautiful cathedral of Europe suffer destruction through neglect than the evergreen trees of the Housatonic, the Shepaug, and the Naugatuck. Because of its rural grandeur and its historic associations, Litchfield County has become known as a residential section for the summer months. The splendor of its views both near and distant are unsurpassed in the opinion of many well qualified to judge. Nowhere could one find a setting more beautifully illustrative of the lines - "I love thy rocks and rills - Thy woods and templed hills." So, to the vacation seeker there has come to be magic in the words - "Litchfield", "Cornwall","Sharon", "Salisbury", and "Norfolk".

The nature setting is here, the class of summer residents here now in such as to make others desirous of coming. On such premises one can gamble gloriously as to the future of the county. If never a pine were to be cut into boards, yet by reason of its aesthetic value it must and will be protected from the blister rust.

And finally as to the people who have cooperated and who will continue the campaign, among the non-resident owners may be classed the following:

1. Those who have summer homes.
2. Clubs for hunting and fishing like the Marshepaug Forest Club and the Hollenbeck Club.
3. Water companies: Hartford and Waterbury draw copious supplies from this county.
4. Power Companies. The Connecticut Light and Power Company transmits a powerful current from the Falls in Canaan to urban centers. The Stanley Company of New Britain owns a large scope of land and site for reservoir along the Housatonic in Cornwall, Kent and Sharon. The latter company is preparing plans for eradication work and systematic planting.

5. Summer camps for boys and girls. A score of these camps have been established at Waramaug, Bantom Lake, Tyler Pond, Mohawk, Twin Lakes, and beside other stretches of sky blue water.
6. State Parks and Forests. Ten parks, comprising 2514 acres have been established in the county. Three state forests of 3915 acres have also been set aside. More land is being added steadily to the state holdings.

All of these classes of people and companies, from their very nature cannot be deaf or blind to the necessity for preserving the pine.

With the resident owner as typified by the Litchfield County farmer, the problem must be handled more on an economic basis. Natural seeding is progressing slowly and steadily in some sections and will run its proper course. In other places owing to the scarcity or total lack of seed trees, land which should be in pine is not being properly reforested. A campaign to secure more small plantations and the supplementing of natural stocking by artificial means should go hand in hand with the blister rust work. Already there are fairly large plantations made by individuals, and by other agencies such as, Marshepaug Forest Club, the City of Waterbury, the Torrington Water Company and the American Brass Company.

Ernest D. Clark, Conn.

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## IS THIS A RECORD FOR LATE ERADICATION ?

Mr. R. M. Hutchinson was engaged on November 17, and 18 in the eradication of cultivated currants and gooseberries in area surrounding State Forest Nursery near Saratoga Springs, New York.

There is nothing like stretching out the eradication season. Even if the wild Ribes cannot be found and pulled out in November, there is this possibility of pulling out the offending cultivated bushes in an eradication area, even after the leaves have fallen.

By going one step farther, the question arises, can eradication of cultivated Ribes be done economically when the ground is frozen?

Note to Agents: Can anyone beat Mr. Hutchinson's record for late season eradication? Write us about it! !

Resume of Eleventh Annual Blister Rust Conference Held at

Springfield, Mass., December 9th and 10th, 1925.

The Eleventh Annual Blister Rust Conference was held at Springfield, Mass., on December 9th and 10th. A total of 45 persons, representing all the Northeastern States and Canada, were present. The feeling was generally expressed that this year's conference was the most successful of any ever held. A good spirit of cooperation was evident and helpful discussions of the various topics were freely participated in by the State and Federal leaders.

In opening the conference, Mr. Harris A. Reynolds, Secretary of the American Plant Pest Committee, gave a very interesting address on "Cooperation Leads to Success".

Mr. Filler then presented a paper on the progress of control work in the Northeastern States. He mentioned that the practicability of the present policy had been proved by the results accomplished since the beginning of the eight year control program in 1922. Since then, a total of 3,211,730 acres have been cleared of 29,787,121 wild and cultivated Ribes at a per acre cost of 17.6 cents. This acreage is over three times as much area as covered during the four year period prior to 1922. In the application of control measures, 10,025 individual cooperators have expended $151,836.61 and 147,458.74 has been spent from 461 town appropriations made in four states. Due largely to adverse field conditions during 1925, a decrease of 17.2% occured in the acreage cleared of Ribes. Mr. Filler pointed out that this slump should not discourage the personnel but rather spur it on to renewed efforts with a determination to use its past experience as a foundation for developing more adequate plans and better organization of the work in order to clear approximately two million acres of Ribes each year.

This paper was followed by a general discussion as to ways and means of completing the initial eradication of Ribes in each state, and the need and character of re-eradication work.

During the afternoon session a general round-table discussion of the various details of the program was led by Dr. Martin. Mr. Newman's paper on educational activities gave a good basis for discussion.

The second day of the conference was devoted to special papers. Blister rust conditions in Canada, the Northwest, and Middle Atlantic and Lake States were described by Messrs. McCallum, Detwiler, and Martin respectively. Dr. Pennington gave a specially interesting and instructive paper on the spread

of blister rust in the eastern United States. Messrs. Merrill and Anderson showed the value of data on the use of white pine and other woods in blister rust control. Mr. Endersbee presented definite facts which showed the effectiveness of control work in Connecticut; while Mr. Riley gave a preliminary report on the efficiency and cost of different size eradication crews. Mr. Fivaz briefly outlined the experimental work underway at North Hudson, and Dr. York gave convincing figures summarizing blister rust damage studies made in New York.

Considerable interest shown by the leaders in an exhibit of the blister rust educational material used in the various states. During the evening, the blister rust film- "The Pines" was shown at the opening session of the New England Forestry Congress. A blister rust exhibit depicting how the disease attacks all sizes of pine was placed in the exhibit hall used by the Congress. Many favorable comments were made regarding this exhibit. The Forestry Congress passed a resolution urging support of the present blister rust control program.

SUMMARY OF RIBES ERADICATION WORK CARRIED ON IN THE EASTERN STATES IN 1925.

| State | Acreage | Ribes pulled wild and cultivated. | Cost. |
|---|---|---|---|
| Maine | 274,678 | 1,725,056 | $20,257.62 |
| N. H. | 261,244 | 3,750,734 | 44,614.97 |
| Vermont | 26,622 | 380,477 | 9,058.12 |
| Mass. | 195,201 | 785,440 | 21,759.45 |
| R. I. | 25,640 | 6,922 | 1,519.04 |
| Conn. | 16,106 | 273,481 | 5,359.49 |
| N. Y. | 34,937 | 996,018 | 35,787.36 |
| Total | 834,428 | 7,356,128 | $138,356.05 |
| Nat'l Forest | 466 | 49,479 | $284.41 |

E. C. Filler

BLISTER RUST AND PRUNING SHEARS.

Does the artificial pruning of white pines have any effect in preventing the spread of the disease? On the east side of Rattle Snake Hill in North Canaan, Conn., there is about an acre of uneven, aged white pine which the owner trimmed last fall or winter. All the lower limbs to a height of perhaps one-third the height of the tree were removed. Although it was a shock to the trees to remove so much in one season, most of the pines seem to have stood the operation very well. The work was fairly well done except that some rather ugly stubs were left. All over Rattle Snake Hill there were wild gooseberry bushes which were not pulled until this summer, by the State Control camp. It is not known how many infections may have been removed on the branches cut off but at present the pine stand seems free from the disease. One small pine not pruned was dead from this disease which had begun its infection on a small lateral branch about a foot from the ground.

An examination of another tract of about one-half acre of old pasture in Salisbury township disclosed the fact that of a total of a little over 200 pines which have sprung up from natural seeding, that 60 per cent were either dead or infected with the disease. Of the infected trees, which are small averaging perhaps four feet in height, the great part of the infection shows on the side limbs or on the main stem at less than two feet from the ground. Prompt trimming off of the diseased lower branches might save a considerable number of these trees provided the currant and gooseberry bushes are also removed to prevent new infections in the higher branches. It has been suggested that perhaps the shade and moisture on the lower branches is more favorable to the development of the disease than where the light and air conditions are better. In some cases where the disease on the currant and gooseberry bushes is abundant and where the bushes

stand on a hill overlooking a body of pines, the pine infections occur at any height. However, that seems fortunately not to be the general rule.

The foregoing illustrations are cited merely as interesting observations and anyone who has facts to confirm or dispute them would confer a service by making them known. In the meantime, the pines are safe only if the currants and gooseberries are at a distance of 900 feet or more.

E. D. Clark, Agent, Conn.

Extract from Litchfield County Leader - Friday, November 6, 1925.

Editor: - Other Agents probably know of pine owners who have pruned infected branches from their diseased stands. If so, let us have their results. Can this pruning be done at a profit, if the stand is 25, 50 or 75% infected? Doesn't it depend on the degree of stocking, also on such factors as size of infected trees, in relation to those immediately adjacent to them, number and position of healthy trees on the area, number of infections per tree, etc? It would seem to the Editor that this is worth discussing in future numbers of the Blister Rust News.

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## DOES PRUNING RETARD TIME OF INFECTIONS?

Mr. Kellogg of Gt. Barrington, Mass., has 15 acres of white pine. About half of the stand is pruned to a height of 10 feet, while the remainder of the trees have not yet been pruned. In both parts of the stand (pruned and not pruned) I found few dead pine. In the pruned part no limb cankers were found. But in the unpruned part of the stand a large percentage of pines have limb cankers.

Large gooseberries and red currants are abundant throughout the entire stand.

Conclusion: Pruning has checked the disease in this stand.

W. J. Endersbee - Mass.

## HEAVY INFECTION, AT LANDAFF, NEW HAMPSHIRE.

Statement of Data Obtained on Strip Line Survey Run
Through Uneradicated Tract at Landaff, N. H.
September 1923.

Length of strip. . . . . 2 1/8 miles

Acreage of strip (11,220' x 16.5') . . . . . 4 1/4 acres

Total number of pine. . . . . .944

Total number infected pine . . . . . .408

Percent of trees infected . . . . . 43.2

Infected Pines by Height Classes:

| Height Class | No. Pine Infected | No. Pine Healthy | % Infected |
|---|---|---|---|
| 1'-5' | 26 | 121 | 17.0 |
| 6-10 | 39 | 82 | 32.2 |
| 11-20 | 97 | 119 | 44.9 |
| 21-30 | 153 | 126 | 54.8 |
| 31-40 | 72 | 58 | 55.3 |
| 41-50 | 21 | 8 | 72.4 |
| 51-60 | 0 | 5 | 0.0 |
| 61-70 | 0 | 12 | 0.0 |
| 71-80 | 0 | 5 | 0.0 |

Age of oldest canker. . . . . 1910

No. cankers originating on 1918 wood or older . . . . . 1736

" " " " 1919 wood . . . . . 279

" " " " 1920 wood . . . . . 144

" " " " 1921 wood . . . . . 45

" " " " 1922 wood . . . . . 2

No. Ribes (gooseberries) on 2 1/8 miles of rod wide strips . . . . 84

No. feet of L. B. S. in these 84 bushes . . . . . .680

No. Ribes per acre . . . . . .19.7

No. feet L.B.S. per acre . . . . . 166'

No. infected pine per acre . . . . . 96

No. cankers per acre . . . . . 519

No. infected trees per acre for every Ribes bush . . . . . .4.8

No. cankers per acre for each foot of L.B.S. . . . . .3.1

November 16, 1925. E. C. Filler

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SWINGING AROUND THE CIRCLE, OR

A TOUR OF THE BLISTER RUST INFECTION CENTERS.

From October 21 to 29 inclusive a small party visited the notable infection centers in the Northeast. The party consisted of Dr. Haven Metcalf, and Dr. John S. Boyce of the Office of Forest Pathology; Messrs. S. B. Detwiler and E. C. Filler of the Office of Blister Rust Control. Dr. Walter H. Snell of Brown University and Dr. H. H. York of the N. Y. Conservation Commission joined the party for part of the trip.

The points visited included infection centers at Swansea, Halifax, Pembroke and Ipswich, Massachusetts; Kittery Point, Maine; North Conway and Littleton, New Hampshire; Waterford and Lyndonville, Vermont; and Peru, Pottsville and Warrensburg, New York.

The most interesting infection of all was the Waterford, Vermont area, according to Dr. Boyce.

A letter from Dr. Boyce to Dr. York follows:

## A WESTERNERS IDEA OF BLISTER RUST CONDITIONS IN THE NORTHEAST.

Dear Dr. York:

During my trip in October through the white pine region of New England and New York, I was particularly impressed by the thriftiness and agressiveness of eastern white pine. This tree rapidly reclaims old cultivated and pasture land naturally over large areas and when planted at relatively low cost produced a fully stocked stand on a short rotation. Furthermore, there was no other species in this region that seemed to approach white pine.

But white pine blister rust, if not controlled, will eliminate this species from future stands rather rapidly and there is nothing that can take its place. White pine seedlings and small saplings are rapidly disappearing in the pine belt. Where the disease has been present for some time trees of these size classes are difficult to find, while where the rust has just appeared they are dying rapidly.

At Waterford, Vermont, there was a striking example of what the blister rust can do to merchantable timber. In a pole stand containing trees up to 80 feet high and 20 inches D.B.H. or more, 40 trees over 50 feet high and representing 13 per cent of the stand had already been killed and many others will succumb in the next few years. The large trees, with a long clear length and small crown characteristics of individuals in an adequately stocked stand, died very soon after 10 to 15 feet of the tops had been killed by a canker on the bole. This stand cannot be saved, it can only be salvaged by immediate logging.

My observation in New England and New York were particularly inter-

esting to me, coming as they did immediately after four months spent in the forests of Europe. There the nations know that forests are necessary to national prosperity and national safety. Great Britain, the one great power, which has always neglected forestry, has learned her lesson. The World War taught it to her. The British are well along on a long time program of re-forestation and afforestation - planting at a cost of from twenty to fifty dollars ($20.00-$50.00) per acre over extensive areas.

After seeing the extreme lengths to which Europe goes to raise timber, we will be avoiding our present responsibility and passing on a heavy handicap to future generations if we fail to protect the most valuable forest tree in the northeastern states when such protection can be given at a cost economically feasible.

Very sincerely yours,

J. S. Boyce, Pathologist,
Portland, Oregon.

Permission for use given by Dr. Boyce.

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GOOD COOPERATION WITH THE FARM BUREAU

Mr. Barraclough had an exhibit at the Annual Farm Bureau meeting at Brentwood in Rockingham County, on November 6 and 7, and made his annual report to the Farm Bureau.

A matter of favorable comment is the close cooperation between the County Agricultural Agent and our own Agents. One instance of this has just come to hand in the shape of a mimeographed notice of a Forestry Meeting scheduled for November 18 at the Grange Hall in Auburn, signed by Mr. J. A. Parington, the County Agricultural Agent, and Mr. K. E. Barraclough, Blister Rust Agent. Three reels of motion pictures were shown. Mr. Hale, Assistant State Forester of New Hampshire was the speaker of the evening.

REMINISCENCES OF AN EX-AGENT

Formerly I thought as a blister rust agent, spoke as a blister rust agent, and acted as a blister rust agent. Now I have gone to other work and my blister rust activities have been put away. It is my privilege, nevertheless, to muse thoughtfully upon them and their effects. Fortunately many amusing and happy thoughts come to me as I temporarily place myself back in the role of a blister rust agent. Then, too, the work from a somewhat changed angle has assumed larger and perhaps more definite proportions in my life as a whole. Let me present a few of these thoughts as they occur to me now.

As an inhabitant, citizen and representative "of no mean country", I am proud to do my part towards her welfare. Moreover, whatever my future life shall be I know that my welfare is bound somewhat to be affected by hers. So I should do whatever possible to promote it. It is dependent mainly upon local home industries. Therefore I should support local home industries even at a sacrifice. To my mind the blister rust worker is an important supporter of my home industries by the protection which he gives to one of their essential raw products; i. e., white pine.

But, on the other hand, where is there need of sacrifice as just suggested? By my work I help to insure the continuance of local home industries so that I can get goods here conveniently, exchange them, return them, and have them repaired more conveniently. Considering the transportation, considering the time, locally produced commodities are not expensive. Am I, therefore, making any sacrifice by pushing forward my work even in the face of difficulty and disappointment? Furthermore, I will gain, for I'll be able to widen my social sphere through constant associations and this is bound to work in my favor at some future time.

I can see how my blister rust work through it's tendency to stabilize local industries will tend to increase buying and thus I do my part in forwarding

a movement which will give a new birth of prosperity to the region in which I am, In this I cannot fail to share. Incidentally, this business growth will also mean an improved and larger assortment which will cater better to quality and individuality of taste.

Is it not also probable the regional growth means an increase in property values and a decrease in the tax rate?

Does not the protection of pine mean, to a certain extent, the continuance of the forest beautiful?

Directly I am interested in the continued production of whitepine which in turn, will favor local labor; this may sometime mean a solution to the labor problem in my region. Following this local producers and local buyers, chiefly laborers, will favor local merchants making a desirable "buying circle."

Thus as I muse over my former work as a blister rust control agent I find that I have done my bit towards writing public spirit in my region and by so doing I have helped to build around it a wall with all the advantages and none of the disadvantages of a protective tariff.

A. D. McDonnell, Conn.
Dec. 1925.

## GREAT INCREASE IN BLISTER RUST CONTROL WORK IN NEW YORK.

Recent summaries of lands protected from white pine blister rust this past field season show a great increase in interest as a result of the educational campaign which has been in effect since 1922.

In 1922 thirty-five white pine woodlot owners protected 5,678 acres of pine from the disease. From this small beginning the work has increased to such an extent that in 1925, 320 land owners protected 31,253 acres of white pine from blister rust. There is an increase of 100% in the number of private land owners cooperating over the 1924 season, and an increase of 62% in acres of white pine protected over the previous year.

State land to the amount of 3,684 acres was protected this past season, located principally in Hamilton County.

A grand total of 34,937 acres of all lands protected from blister rust in this state this season over-tops by nearly 10,000 the amount protected in any other year since the blister rust work has been organized in this state. The increased interest in this work is better shown by the fact that in 1922 the work was confined to approximately 20 towns in 5 counties and this past season was conducted and eradication done in 101 towns scattered in 22 counties. These results have been due to the effectiveness of the educational campaign which has been conducted in this state since 1922, in an agreement between the United States Department of Agriculture and the Conservation Commission.

Extract from The Observer, New York Conservation Commission, Dec. 1, 1925.

## PROGRESS OF BLISTER RUST CONTROL IN THE WEST.

1. Cultivated Black Currant Eradication. - Work in Oregon is completed; in Montana, Idaho and Washington there is one more season's work; in California one third of the state by area has been covered. A summary of the work is given in the following table.

Cultivated Black Currant Eradication 1922 - 1925

| State | Plantings | Bushes |
|---|---|---|
| Montana | 757 | 4,781 |
| Idaho | 1,143 | 6,932 |
| Washington | 4,991 | 76,975 |
| Oregon | 1,688 | 34,378 |
| California | 331 | 2,893 |
| Total | 8,910 | 125,959 |

2. Quarantine Inspection.

Actual fall inspection was begun between October 1 and 7 but up to November 10 no violation of federal quarantines had been intercepted. Eleven violations of state quarantines have been noted.

3. Experimental Ribes Eradication - The area worked this season was in the upper Priest River Valley on the Kaniksu National Forest in Idaho. The area worked in 1925 joined the 1924 eradication area. During this past season 4,260 acres of land were cleared of wild Ribes. This area had an average of 86 Ribes bushes per acre.

In southern Oregon a small experimental Ribes eradication project was conducted this summer on the Crater National Forest. 1,874 acres of land were worked showing an average of 37 Ribes per acre, and at an average

cost of $2.19 per acre. This area is in the northern part of the sugar pine belt and contains an average of 18,500 feet B.M. of sugar and western white pine per acre.

Extracts from S. N. Wyckoff's report at the Western Blister Rust Conference.

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THE A B C OF EFFECTIVE WORK.

There is no Pollyanna road to success. Every man who seeks to achieve develops his own formulas. However, it is always instructive to study principles by which men act. Edward A. Filene gives the following six rules as governing effective work in any job, big or little.

1. Make your plan in writing.- This makes you clear as to your purpose.

2. Compare it with the methods of the most successful men.- Checking your own plan against plans other men have followed when they faced similar problems is certain to be helpful.

3. Have it criticized in advance by those it will effect.- They may find flaws in it, and if not, they will be more friendly to its operation if they are consulted first.

4. Put it into operation. - Otherwise it is only a day dream.

5. See that it keeps itself in operation until revoked. - It is not organized until it works automatically.

6. Keep the plan open to revision but do not allow it to be changed except after the most careful reasoning. - The best minds have swinging doors rather than open doors. New information opens the doors, and a decision closes them.

(Adapted from Glenn Frank's article in the Washington Post, October 8, 1925).

S.B.D.

FORESTRY SEMINAR OF THE WESTERN BLISTER RUST OFFICE.

The Western Office, with headquarters at Spokane, Washington, has formed an organization known as the Forestry Seminar of the Western Blister Rust Office. Its purpose shall be to further, by mutual help, the knowledge of all members of the Western Blister Rust Office on all branches of forestry and closely related subjects pertaining to forestry or to the work of this Office. This purpose shall be achieved by holding meetings at specific times, which shall be devoted to discussion of such subjects, presentation of papers on these subjects by the members, and addresses by others qualified to present matters of special interest to the members.

Meetings of the Forestry Seminar shall be of two types - regular and special. Special meetings shall be held at the call of the Chairman of the Seminar, and shall primarily be devoted to addresses by visiting foresters or others on topics of special interest. Regular meetings shall be held on the second and fourth Friday of each month, at 3:30 P.M., at the Spokane Office.

Mr. Wyckoff writes that "The plan is working out successfully. Thus far the following papers have been presented:

Experimental Ribes Eradication in Oregon - - - - - - - - - - Melis.
Experimental Chemical Eradication - - - - - - - - - - - - - Offord.
Preparation of Scientific Reports - - - - - - - - - - - - - Wyckoff.
Preparation of Outlines for Papers - - - - - - - - - - - - Stillinger.
Preparation and Use of Bibliographies - - - - - - - - - - - Putnam.
Brush Disposal - - - - - - - - - - - - - - - - - - - - - - - Whiting.

Other papers scheduled for the future are:

Pathological and Entomological Troubles on White Pine in the Inland Empire - - - - - - - - - - - - - - Stillinger.
Tree Succession in White Pine Stands - - - - - - - - - - - - Putnam.
Western White Pine Management Plans - - - - - - - - - - - - Rodner.
The Clarke McNary Act and Its Possibilities - - - - - - - - Benedict.
Use of Taper Tables and Form Factors, and Their Relation to Volume Tables - - - - - - - - - - - - - - - Myer.
Utilization of White and Sugar Pine and Its Relation to Distribution of the Species - - - - - - - - Bedwell.

Paper Making and its History - - - - - - - - - - - - - - - - - Strong.
What Does White Pine Blister Rust Mean to Forestry - - - Wyckoff.
The Pend Oreille National Forest - - - - - - - - - - - - - - E. T. Wolf
The Coeur d'Alene National Forest - - - - - - - - - - - - - C. K. McHarg, Jr.
The St. Joe National Forest - - - - - - - - - - - - - - - - R. A. Phillips.
The Kaniksu National Forest - - - - - - - - - - - - - - - - J. C. Whitham.

In addition to the four talks listed by the Forest Supervisors, we hope to have several men from the Forest Service District Office at Missoula give us something on their special subjects."

S. N. Wyckoff.

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SHIPMENTS TO WASHINGTON, D. C.

When shipments are being made the Washington Office on Government Bills of Lading care should be taken in marking each piece, and in making out the bills of lading.

Mr. F. E. Meloy, in Charge of Property, has made the following suggestions:

"It is requested that in making shipments to the Bureau here in Washington the following points be observed:

1. Mark each piece in the shipment:

   Department of Agriculture,
   Bureau of Plant Industry,
   (Name of consignee, as John Smith),
   Washington, D. C.

2. The heading of the bill of lading must show the name of the consignor, and the Bureau of Plant Industry, Washington, D. C. as the consignee. The Bill of Lading should also show under the heading MARKS the actual marks placed on the pieces included in the shipment."

## OFFORD GOES TO PARIS

Has been carrying on experiments in Idaho
in Chemical Eradication of Ribes.

Mr. H. R. Offord, of our Western office, who has been engaged on the problem of chemical eradication of Ribes stopped off at the Washington, D. C. Office for about ten days. He is enroute to Paris where he will enter the Sorbonne and continue his studies in Plant Physiology. Mr. Offord is a graduate of the University of British Columbia. He began his work in our Office in the spring of 1923 where he was engaged in work at the experimental control area at Cheekye, British Columbia. During this past summer he conducted chemical eradication experiments in northern Idaho, at Wallace and Santa.

Upon his return from Paris, it is expected he will again take up the problem of chemical eradication of Ribes in connection with blister rust control work in the West.

Mr. Offord may be reached by addressing him at 15 Tillotson Road, Illford, Essex, England, from which address mail will be forwarded to him at Paris.

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## A MONEY SAVING SCHEME "?"

Mr. X was noted as being close. Some of the neighbors used the hickory tree and its bark as a simile. The agent wrote Mr. X and then went to see him. He had about 25 acres of pines and white birches and the eradication problem was not a big one, involving maybe an outlay of from $5.00 to $10.00 or a couple of days work. His decision was positive, jocular and negative with the remark that "it looked like a money making scheme."

Recognizing a stonewall when he saw it, the agent then prepared a flank attack by bringing the matter to the old gentleman's sons, who in a few years would naturally fall heir to the land. Before anything could be accomplished, however, Mr. X suddenly sold off the timber to a sawmill man who is cutting the birch and all the pine seed trees. A money saving scheme! For every dollar saved by not eradicating gooseberries and reserving seed trees his sons will be out at least from $50 to $100. How well the pine would have restocked itself naturally after the birch was cut if seed trees were left! As many an unsuccessful effort had been made previously to buy his timber, it is possible that an unacknowledged fear of the disease persuaded Mr. X to make the sale.

E. D. Clark, Conn.

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TWELVE THINGS TO REMEMBER

1. The value of time.
2. The success of perseverance.
3. The pleasure of working.
4. The dignity of simplicity.
5. The worth of character.
6. The power of kindness.
7. The influence of example.
8. The obligation of duty.
9. The wisdom of economy.
10. The virtue of patience.
11. The improvement of talent.
12. The joy of originating.

Copied from the Daily Press.

## THE SHAKER PINES

About 1875, the Shakers, a colony of celibate Christian communists living at Enfield, Connecticut, were forced to give up tillage on considerable portions of their lands, owing to a decrease in the number of workers in the colony. In order to utilize these lands they conceived the idea of reproducing them to white pine. Their method was to sow pine seed, and buck-wheat, harvesting the latter at the end of the first season and allowing the pine seedlings to grow. About 100 acres of pine were started in this manner. As the following figures will show these stands were very dense - really too dense for satisfactory growth.

In 1908 the Connecticut Agricultural Experiment Station acquired an isolated tract of this pine, about four acres in area and nearly square in shape. This particular piece was started with pine in 1878 and was therefore 30 years old. There were about 9,500 stems standing, or 2,400 per acre and of these 59% were dead. These stems were not evenly distributed, the number per acre in different portions of the tract varying from 1,500 to 4,000. It is impossible to estimate the number of seedlings present during the early life of the stand but it must have been very large.

The whole tract was divided into four nearly equal plots, each of which received different treatment.

Plot I - left untouched as a check.

Plot II - dead and suppressed trees removed - really not a thinning.

Plot III - dead, suppressed and intermediate trees removed - a light thinning.

Plot IV - heavy thinning leaving the dominant and about half of the codominant trees - a heavy thinning.

No further mention will be made of Plot II because several factors enter in which make it impossible to compare it with the other plots.

The stand left after thinning in 1908 was as follows:

#1 - Check 950 trees per acre.

#III - Light thinning - 670 trees per acre.

#IV Heavy thinning - 240 " " "

These plots were remeasured in 1923, fifteen years after the experiments were begun. Following are some of the facts revealed at this time.

1. The number of trees that died from natural competition was in inverse ratio to the degree of thinning Plot I (check) lost 37%, Plot III 14% and Plot IV none.

2. The growth in diameter increased with the degree of thinning. Plot I (check) increased 2½", Plot III 2¾" and Plot IV 5¾".

3. The growth in volume increased with the degree of thinning. Plot I (check) increased 9% or from 2,800 to 3,050 cubic feet per acre. Plot III increased 46% or from 2,510 to 2,870 cu. ft. per acre. Plot IV increased 192% or from 909 to 2,620 cu. ft. per acre.

Too great density in the check and lightly thinned plots resulted both in a high death rate and small increase in diameter as compared with the heavily thinned plot. One other factor not shown by the figures is the markedly increased production of quality lumber by the heavily thinned plot when compared with the others.

The Shaker Pines are a good illustration of what may be expected from thinnings in second growth white pine stands even when such stands have reached the age of 30 years before receiving attention.

Henry W. Hicock,
Conn.

## CUNNINGHAM'S CROWBAR.

In Goshen Township near Cornwall Hollow, Mr. Seymour Cunningham has recently bought five farms comprising between 1000 and 2000 acres of land. The best land is farmed for the support of thoroughbred beef cattle and Hampshire sheep. Some out of the way meadow and pasture land has been planted to white pine, red pine and Norway spruce. Still other land, formerly pastured, has volunteer white pine which is rather open and limby, from 15 to 30 years old. It is evident that the persistent dead limbs will make knotty lumber and it is questionable how much expense is justified in removing them at this time.

As a compromise, Mr. Cunningham has his men break off all they can reach with heavy crow bars being careful not to so treat green limbs and also using care in breaking the limbs flush with the trunk so as to facilitate healing. They make very effective weapons for smashing off dead limbs and snags up to two inches in diameter to a height of from 10 to 12 feet. This procedure would probably not be favorably regarded by the Pine Pruner of Holderness, but it is undoubtedly a step in the right direction. Mr. Cunningham is the first pine grower of our acquaintance to use an iron bar to pry knots out of his future crop of boards.

E. D. Clark, Conn.

## THE MOVIE SEASON IS ON.

Mr. E. G. Woodward arranged for four motion picture shows and meetings in a string Nov. 4,5, and 6, in his district in Warren County, N. Y. 145 people were present at the first one at North Creek. Other meetings were held at Bolton, Warrensburg, and at W. Mountain. Dr. H. H. York spoke at all four meetings.

# EARNINGS FROM FOREST PLANTATIONS

by

H. W. Hicock, Assistant Forester,
Conn. Agricultural Experiment Station.

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What rate of interest will forest plantations return on the capital invested in them? This depends on a number of variable factors and in order to arrive at figures which may be compared it is necessary to assign values to these factors.

Certain general assumptions and facts apply to all the cases described below:--

| | |
|---|---|
| Species used, | White pine |
| Rotation | 50 years |
| Yield at 50 years | 46,500 B.F. per acre. |
| Value @ $10 per M on stump | $465.00 per acre |
| Cost of protection from fire and other enemies, annually, | 20¢ per acre. |
| Cost of planting, | $15.00 per acre. |

The figures used in the general assumptions are very conservative. Forty-six thousand five hundred board feet per acre is taken as the yield on average soils. It is for natural stands which have not been thinned to improve the yield. If under management a plantation received three thinnings at 25, 35 and 45 years, these thinnings would yield enough to more than pay for the operation, and the final yield would be greater as well as of better quality. The present average stumpage price of $10.00 per M. is used rather than an unknown future price, which, according to the present trend, will most certainly be higher and show a greater profit.

Case I. Land to be listed under the present forest tax law, General Statutes 1918, Secs. 1173-1181. Under this law the annual tax rate is limited

to ten mills on land alone for 50 years. A severance or products tax of 6% is paid when the timber is cut.

Land value of $5.00 per acre.

Costs are shown at 3, 4, 5 and 6% compound interest on all money invested and this is deducted from the net yield to show what is earned in addition to paying 3, 4, 5, or 6 percent compound interest on all expenditures. This remainder is called the enterpreneur's or enterpriser's gain.

Case II. Same as Case I except land is valued at $10.00

Case III. " " " " " " " " " 15.00

Case IV. " " " " " " " " " 25.00

V. Land value $25 per acre. This case assumes the passage of a new forest tax law of universal application under which the land only is valued by the local assessors and taxed at the local rate. The timber would not be taxed until it is cut when it would pay a products or severance tax of not more than 10%. The rate assumed is 30 mills, which is about the maximum rural tax rate in Connecticut at present. A $25 land value is perhaps the maximum that should be used for forest production. If land has a greater value, this must be due to the fact that it is more useful for pasture, as tillage, or that it has an added value for estate purposes. If such is the case the land should either not be used to produce tree crops or, if it is so used, only a portion of its value should be charged against this crop in considering both interest and taxes.

Case I. Land valued at $5.00

| | | 4% | 5% | 6% |
|---|---|---|---|---|
| Costs with interest compounded at | | | | |
| Planting at $15 per acre | | $106.65 | $172.05 | $276.30 |
| Interest on $5 land value (annual charge) | | 30.53 | 52.34 | 87.10 |
| Protection at 20¢ per acre, (annual charge) | | 30.53 | 41.87 | 58.07 |
| Taxes on land @ 10 mills, (annual charge) | | 7.63 | 10.47 | 14.52 |
| Total costs, | | $175.34 | $276.73 | $435.99 |
| Returns | | | | |
| Gross yield | $465.00 | | | |
| Products tax | 27.90 | | | |
| Net yield (Cases I, II, III, IV) | $437.10 | $437.10 | $437.10 | $437.10 |
| Less costs, | | 175.34 | 276.73 | 435.99 |
| Enterpriser's gain, | | $261.76 | $160.37 | $ 1.11 |

Case II. Land valued at $10.00

| | 4% | 5% | 6% |
|---|---|---|---|
| Costs with interest compounded at | | | |
| Planting @ $15 per acre, | $106.65 | $182.05 | $276.30 |
| Interest on $10 land value (annual charge) | 61.06 | 104.67 | 174.20 |
| Protection @ 20¢ per acre, (annual charge) | 30.53 | 41.87 | 58.07 |
| Taxes on land @ 10 mills, (annual charge) | 15.26 | 20.93 | 29.03 |
| Total costs, | $213.50 | $339.52 | $537.60 |
| Returns, (Net yield same as Case I) | $437.10 | $437.10 | $437.10 |
| | 213.50 | 339.52 | 537.60 |
| Enterpriser's gain, | $223.60 | $97.58 | -$100.50 |

Case III. Land Valued at $15.00

| | 4% | 5% | 6% |
|---|---|---|---|
| Costs with interest compounded at | | | |
| Planting @ $15 per acre | $106.65 | $172.05 | $ |
| Interest on $15 land value, (annual charge) | 91.60 | 157.02 | |
| Protection @ 20¢ per acre, (annual charge) | 30.53 | 41.87 | |
| Tax on land @ 10 mills (annual charge) | 22.08 | 31.41 | |
| Total costs, | $250.86 | $402.35 | |

(Cont.)

| Case III. (cont) | 4% | 5% | 6% |
|---|---|---|---|
| Returns (Net yield same as Case I) | ¢437.10 | ¢437.10 | |
| Less costs, | 250.86 | 402.35 | |
| Enterpriser's gain, | $176.24 | $ 34.75 | |

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Case IV Land valued at ¢25.00

| Costs with interest compounded at | 3% | 4% | 5% |
|---|---|---|---|
| Planting @ $15 per acre | ¢65.70 | ¢106.65 | ¢172.05 |
| Interest on ¢25 land value, (annual charge) | 84.60 | 152.66 | 261.69 |
| Protection @ 20¢ per acre, (annual charge) | 22.56 | 30.53 | 41.87 |
| Taxes on land @ 10 mills, (annual charge) | 28.20 | 38.16 | 52.34 |
| Total costs, | $201.06 | $328.00 | $527.95 |
| Returns (Net yield same as Case I) | $437.10 | $437.10 | $437.10 |
| Less costs, | 201.06 | 328.00 | 527.95 |
| Enterpriser's gain, | $236.04 | $109.10 | -$ 90.85 |

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Case V. Land valued at ¢25 but taxed at local rate

| Costs with interest compounded at | 3% | 4% | 5% |
|---|---|---|---|
| Planting @ $15 per acre | $67.50 | $106.65 | ¢ |
| Interest on ¢25 land, (annual charge) | 84.60 | 152.66 | |
| Protection @ 20¢ per acre, (annual charge) | 22.56 | 30.53 | |
| Taxes on land @ 30 mills | 84.60 | 114.48 | |
| Total costs, | $259.26 | $404.32 | |

Returns

| | | | |
|---|---|---|---|
| Gross money yield | ¢465.00 | | |
| Less 10% products tax, | 46.50 | | |
| Net yield | ¢418.50 | $418.50 | $418.50 |
| Less costs, | | 259.26 | 404.32 |
| Enterpriser's gain, | | $159.24 | $ 14.18 |

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Note 1. All computations on a per acre basis.
Note 2. For Cases I, II, III no computation is made for 3% because for both 4% and 5% the enterpriser's profit is plus by a large amount and the general trend is apparent without the 3% computation.

Note 3. For Cases IV and V no computation is made for 6% because the plantation would not pay costs at 6% on a $15 land value (Case III) and therefore would not pay 6% on a $25 land value. (Cases IV and V)

Note 4. For Case V no computation is made for 5% because the plantation would not pay 5% on a $25 land value with a 10 mill tax, (Case IV) and therefore would not for a 30 mill tax (Case V).

## PERSONAL

Mr. S. B. Detwiler has been invited to be one of the speakers at the Annual Meeting of the Canadian Branch of the American Phytopathological Society at St. Catherines, Ontario, on December 21 and 22. Mr. Detwiler will speak on the general subject of The White Pine Blister Rust as a National Problem.

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Miss Alma Bishop and Mrs. Bessie B. Hart of the Washington Office have been ill for some weeks, but at this date (Dec.15) both are in better health and we hope will be back in the Office by the first of the year.

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Mr. E. H. Bailey who was engaged in scouting for blister rust for Wisconsin in 1919 with C. H. Johnson, was a recent Washington visitor. He is engaged in work for the Bureau of Soils. E. H. says he ran across old friends - Bill (W.C.) Thompson and Dow V. Baxter, in his Wisconsin field work during the last two years.

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Dr. Roger B. Corbett, Agricultural Economist working under the Purnell Act at Providence, R. I. visited the Washington Office on December 18. Dr. Corbett (or Roger, as we know him best) was engaged in our work for four consecutive summers beginning 1918. He said he remembers with pleasure his early scouting work in Ohio and the later investigative work at Temple and South Deerfield, N. H.

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Messrs. Detwiler and Hodgkins, while engaged on quarantine work at Kansas City, were delightfully entertained at dinner at the home of Mr. and Mrs. Carl Grier of that city. Mrs. Grier, it will be recalled, was formerly Miss Helen Tway, one of the members of our home force at the Washington Office, a few years ago.

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Recent resignations:

| | | | |
|---|---|---|---|
| Mr. Hubert G. Bartow, | headquarters at | Spokane - | Dec. 9. |
| Mr. Harold A. Brischle | " " " | " | Dec. 7 |
| Miss Ruth Giovannetti | " " " | Sacramento | Dec. 5 |
| Mr. Allison H. Hearn | " | New York State | Dec. 6. |

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Mr. Warren V. Benedict has changed his headquarters from Spokane to Portland, Oregon, effective Dec. 5.

## MOTION PICTURES

Mr. Filler, of the Boston Office, requested the Department to send blister rust film - "The Pines" to him at Springfield to be used at the Eleventh Annual Blister Rust Conference which was held in Springfield, Massachusetts on December 9 and 10.

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Copies of "The Pines", "Cloud Busting", and "Layers and Liars" were sent to Mr. O. C. Anderson of Rhode Island, during the early part of December.

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Copies of "Trees of Tomorrow" and "Winter Logging in the White Mountains" were sent to Mr. W. E. Bradder, Rutland, Vermont, for use during the early part of December.

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## RANKIN HOLDS SUCCESSFUL MEETINGS COMBINING MOTION PICTURES AND A LECTURE.

Mr. Duncan G. Rankin of New York, had an interesting three days in early November. On the 10th he took charge of a forestry moving picture meeting at Wiscopee, and gave a talk on blister rust control, forestry, etc; 167 present. On the 11th at Stanfordville, where he gave a talk on reforesting and the blister rust control work; 203 present. On the 12th at Arthursburg the movies were shown to 35 persons. A forestry blister rust talk was also given.

In three days Mr. Rankin reached 405 people.

R.G.P.

# QUARANTINE NOTES

## HEARING TO BE HELD IN WASHINGTON, JANUARY 8, TO CONSIDER QUARANTINING OREGON.

Acting Secretary of Agriculture, Mr. R. W. Dunlap, under date of December 4 has sent out a notice of public hearing to consider the advisability of quarantining the state of Oregon on account of white pine blister rust. This hearing will take place at Washington, D. C., Room 11 of the Federal Horticultural Board, at 10:00 A. M. Jan. 8, 1926.

"Plant pathologists of the Department of Agriculture have discovered white pine blister rust on both wild and cultivated currants in Tillamook and Clatsop Counties, Oregon, which brings the rust infection within 175 miles of the northern edge of the great sugar pine forests of southern Oregon and northern California."

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## QUARANTINE 26 VIOLATED

Seven violations of Quarantine 26 were reported, two of which were committed by nurserymen. Due to the cold weather which started in early October, it appeared that the 1925 fall season of nursery stock shipping would be one of the lightest known for several seasons. Later, however, shipments began to increase and a total of 5556 shipments were inspected at Mississippi Valley points. During the fall of 1924 the total inspections were 5,881 shipments.

Notes in the trade publications state that the fall season on nursery stock had been favorable with a very encouraging outlook for spring activities.

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UNCERTIFIED SHIPMENTS OF NURSERY STOCK.

Quarantine inspectors have carried out the usual practice this season of recording uncertified shipments of nursery stock seen in transit, also shipments having expired or uncertified certificates. Parcel post shipments of this character were then reported by the Federal Horticultural Board to the proper postal officials who have written personal letters to postmasters concerned, warning them of the danger of accepting nursery stock that is uninspected and uncertified, and requesting more care in the future.

Inspection officials of the states of origin are also notified of uncertified shipments by parcel post, express and freight, and the replies received at this Office show that a check-up is made on nurserymen falling short in this respect. In nearly all states private individuals who fail to obtain the certificate are notified by the State Officials of the legal requirements with respect to certification of plants.

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Mr. E. C. Mandenberg, of the Michigan Bureau of Agricultural Industry, has been appointed to succeed Prof. L. R. Taft, formerly Chief Horticulturist of that State. Mr. Mandenberg has charge of practically all activities of the State Department of Agriculture which were formerly carried on by Professor Taft. Correspondence by this Office with Mr. Mandenberg indicates that he is taking up the quarantine work of that state in a vigorous manner.

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Mr. Arthur C. Brown, General Inspector of the State Plant Board of Florida, paid a brief visit at the Washington Office on December 12.

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## OFFICE COMMENTS

The Washington Office has a new supply of Riker mounts for use in exhibiting specimens of the blister rust. These mounts are 8 x 12 x 1 in., glass covered. Inside of box is fitted with cotton upon which specimens can be placed.

Agents should make requisition for these to our stock clerk, Miss Myrtle L. Cummings, on our regular blue stock form.

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### NEW STEREOPTICON FOR EASTERN USE.

Bids have been recently accepted for purchasing for use in the New England States and New York, a Spencer stereopticon and a daylight screen 36" x 45" in size. The stereopticon with screen will be under the direct supervision of Mr. E. C. Filler of the Boston Office, from whom it should be requested for specific lectures or for definite periods.

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### GET YOUR TRAIL PAPER HERE!!

The Washington Office is ready to supply trail paper in 50 lb. lots to our Agents. The paper can be secured free of charge at Washington and sent direct to the Agents or to the State Leaders. There will be no charge to this Office for the transportation of this trail paper.

A distinct saving is possible if this waste paper supplied by the Department of Agriculture is used.

R.G.P.

# PUBLICATIONS

## Blister Rust

Anon. Gooseberry Pie Versus White Pine Lumber.
The Plymouth County Farmer, Vol. X, No. 11, p.2. Nov. 1925.

Put Worn Out Pastures to Work.
The Plymouth County Farmer, Vol. X, No. 11,p.2, Nov. 1925.

Report on Blister Rust Conference Held at Washington, D. C. Sept. 26, 1924. Fed. Hort. Board, Service and Regulatory Announcements Oct. - Dec. 1924, p. 115-118. March 1925. Three suggestions were made by the nurserymen with the idea of revising Federal Plant Quarantine 26.

White Pine Rust in Oregon.
The Florist Review, Vol. 57, No. 1461, p.136,138.Nov.26,1925.
"Will the discovery of the white pine blister rust in the State of Oregon during the past season lead to abolition, or at least a modification, of the Federal Horticultural Board's Quarantine 26, which now prevents western nurserymen and planters from buying currant and gooseberry bushes in the eastern states?

Whether the changes made in the quarantines, if forthcoming, will take the form of extension to include more territory in the restricted area, or of a relaxation in the stringent regulations, cannot yet be said. The state of Oregon, however, has a nursery industry of considerable importance, and its interests will doubtless be considered. It may also be argued that the newly discovered infestation in Oregon may warrant a loosening of the strict requirements of quarantine 26, in order to open the field once more for a certain amount of transcontinental trade." G.H.M.

Davidson, A.T. - A Deadly Tree Fungus. Inroads of White Pine Blister Rust on this Continent Give Cause for Alarm.
The illustrated Canadian Forest and Outdoors.
Vol. 21, No. 11, p. 629-631, Nov. 1925.

Greeley, William B. - Protection From Tree Diseases - the white pine blister. Report of The Forester for fiscal year ending June 30, 1925. p.24,25. Oct. 10, 1925.

Jardine, W.M. - White Pine Blister Rust Control.
In Report of the Secretary of Agriculture to the President - 1925. p. 57, 58. Nov. 14, 1925.

Taylor, W. A. - Recommendations of the Bureau of Plant Industry (relative to the revision of Quar. 26) Letter from Dr. W. A. Taylor dated Oct. 28, 1924, to Dr. C. L. Marlatt.
Fed. Hort. Board Service and Regulatory Announcements.
Oct.-Dec. 1924, p. 118-119, Mch. 1925.

Ribes

St. John, Harold and Fred A. Warren. - Preliminary List of the Plants of the Kaniksu National Forest, Idaho and Washington. Mimeographed 36 p. July 8, 1925.

Note: While but four species of Ribes are mentioned as being in the Forest, viz: - R. acerifolium, R. inerme, Rydb., R. lacustre (Pers.) Poir. and R. viscosissimum, Pursh, the complete list of other plants by families, and the key for identification of all species should make such a "List of Plants" invaluable in an ecological study of the Ribes in connection with our blister rust control work.

White Pine

Belyea, H. C. - Wind and Exposure as Limiting Factors in the Establishment of Forest Plantations. (Ecology, 6, (1925) No. 3, pp. 238-240)- Observations in a plantation of white and red pine established in 1920 on an exposed site on the Syracuse University grounds indicated that on the same site and under similar conditions the red pine is more resistant to wind desiccation injuries than is the white pine. Records taken in April 1923, following an extended period of heavy, cold, dry winds in February and early March, show 34.5 per cent of the red and 12.7 per cent of the white pines in a condition denoting ability to survive. So serious was the wind injury that the author believes it highly probable that winds may in some cases render impossible the growing of certain tree species upon exposed sites, especially where the soil is deficient in moisture.

PARTIAL LIST OF CONNECTICUT PUBLICATIONS ON WHITE PINE BLISTER RUST.

Britton, W. E. - Inspection of Nurseries. Conn. Agr. Exp. Sta. Bul. 203 p. 236-237. 1918.

" " " Conn. Agr. Exp. Sta. Bul. 234 p. 123 (on currants). 1921.

" " " Conn. Agr. Exp. Sta. Bul. 247, p. 279 (on Ribes). 1922.

" " " Conn. Agr. Exp. Sta. Bul. 256 p. 242. 1923.

" " " Conn. Agr. Exp. Sta. Bul. 265 p. 239 (on Ribes). 1924.

Britton, W. E. and B. H. Walden - Inspection of Imported Nursery Stock in Connecticut. Conn. Agr. Exp. Sta. Rpt. 1912, p. 222. 1913.

Clinton, G. P. - Heteroecious rusts of Connecticut Having a Peridermium for their Accial Stage. Conn. Agr. Exp. Sta. Rpt. 1907, Pt. 6, p. 394. May 1908.

Pine-currant Rust, Cronartium Ribicola Waldh. (I Peridermium Strobi Kleb.) Conn. Agr. Exp. Sta. Bien. Rpt. 1909-10, p. 730-733. 1911.

Pine-currant Rust, Cronartium Ribicola Waldh. Conn. Agr. Exp. Sta. Rpt. 1912, pt. 5, p. 347-348. May 1913.

Report of Committee on Fungous Diseases for 1912. (Paragraph on white pine blister rust p. 28,29.) Conn. Pomological Society for Year 1912 With Proceedings of 22nd Annual Meeting - 1913.

Blister Rust. Conn. Agr. Exp. Sta. Bul. 183, p. 11, 21. 1915.

Notes on Plant Diseases of Conn. Conn.Agr. Exp. Sta. Rpt. 1915, p. 423. Aug. 1916.

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